Supreme Court, U. S.
FILED
JUN 1 1976
MICHAEL RODAK, JR., CLERK

IN THE

Supreme Court of the United States

OCTOBER TERM, 1975.

No. 75-1744

E-T INDUSTRIES, INC.,

Petitioner,

vs.

WHITTAKER CORP. AND DES PLAINES GRAND AUTOMOTIVE SPEED CENTER, INC.,

Respondents.

PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE SEVENTH CIRCUIT.

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TABLE OF CONTENTS.

	PAGE
Table of Authorities	ii
Cases	ii
Statutes	iii
Publications	iv
Opinions Below	1
Jurisdiction	2
Questions Presented	2
Statutes Involved	3
Statement of Facts	3
Reasons for Allowance of Writ	6
1. The Conflict Among the Circuits as to the Extent of Review of the Issue of Non-Obviousness Should be Resolved	6
A. Appeals Court Retrial of Scope and Content of Prior Act	10
B. Appeals Court Retrial of the Differences Between the Claimed Subject Matter and Prior Art	14
C. Appeals Court Retrial of the Level of Ordinary Skill in the Pertinent Act	15
2. The Decision of the Appeals Court in Reviewing the Trial Court's Findings of Patent Validity Is in Conflict with the Pronouncements of This Court Relating to 35 U. S. C. Section 103	16
3. The Appeals Court Incorrectly Distinguished the Case at Bar from U. S. v. Adams	20
Conclusion	22

APPENDIX.

Opinion of the Court of Appeals for the Seventh Circuit .....App. 1

Opinion of the District Court for the Northern District of Illinois, Eastern Division .....App. 9

Order of the Court of Appeals for the Seventh Circuit Denying Rehearing *en banc* .....App. 18

Sakraida v. Ag Pro, Inc., Opinion of the United States Supreme Court, Dated April 20, 1976 .....App. 19

SUPPLEMENTAL APPENDIX.

Beith Patent No. 3,329,468 .....App. 24

TABLE OF AUTHORITIES.

Cases.

Anderson's-Black Rock, Inc. v. Pavement Salvage Company, 396 U. S. 57 (1969) 17, 18, 20

Blair v. Dowd's, Inc., 438 F. 2d 136 (D. C. Cir. 1970) .. 9

Blohm & Voss A. G. v. The Prudential-Grace Lines, Inc., 489 F. 2d 231 (4th Cir. 1973) *cert. denied* 419 U. S. 840 (1974) 8

Graham v. John Deere Co., 383 U. S. 1 (1966) 6, 7, 9, 10, 17, 18, 19, 20

Hadfield v. Ryan Equipment Company, 456 F. 2d 1218 (8th Cir. 1972) 8

Hensley v. Esco, 375 F. 2d 432 (8th Cir. 1967) 8

Hotchkiss v. Greenwood, 52 U. S. 248 (1851) 17, 18

Illinois Tool Works, Inc. v. Continental Can Company, 273 F. Supp. 94 (N. D. Ill. 1967), *aff'd.* 397 F. 2d 517 (7th Cir. 1968) 11

Koppers Company, Inc. v. S & S Corrugated Paper Machinery Company, Inc., 517 F. 2d 1182 (2nd Cir. 1975) .. 9

Moore v. Shultz, 491 F. 2d 294 (10th Cir. 1974) *cert. denied,* 419 U. S. 930 (1974) 8

Panther Pumps & Equipment Company, Inc. v. Hydrocraft, Inc., 468 F. 2d 225 (7th Cir. 1972) 8

Sakraida v. Ag Pro, Inc., ... U. S. ....., 189 U. S. P. Q. 449 (1976) 17, 18, 20

Shanklin Corp. v. Springfield Photo Mount Company, 521 F. 2d 609 (1st Cir. 1975), *cert. denied,* 44 L. W. 3471 (1975) 9

Trio Process Corporation v. L. Goldstein's Sons, Inc., 461 F. 2d 66 (3rd Cir. 1972) 9

United States v. Adams, 383 U. S. 39 (1966) 2, 20, 21

Westwood Chemical, Inc. v. The Owens-Corning Fiberglas Corp., 445 F. 2d 911 (6th Cir. 1971), *cert. denied,* 405 U. S. 917 (1972) 8

White v. Mar-Bel, Inc., 509 F. 2d 287 (5th Cir. 1975) .. 8

Statutes of the United States.

28 U. S. C. § 1254(1) 2

28 U. S. C. § 2101(c) 2

28 U. S. C. § 2101(e) 2

35 U. S. C. § 103 .....2, 3, 6, 7, 19

Constitution of the United States.

Article I, Section 8, Clause 8 21

Federal Rules of Civil Procedure.

F. R. C. P. 52(a) 8, 18

Publications.

1 Patent Law Perspectives 7

3 Patent Law and Practice, White, Patent Litigation: Procedures and Tactics 7

Sherman, "Obviousness: A Question of Law or Fact?" 51 J. Pat. Off. Soc'y 547 (1969) 7

Wepner, "Appellate Review of Patentability," 56 J. Pat. Off. Soc'y 216 (1974) 7

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PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE SEVENTH CIRCUIT.

PETITION FOR WRIT OF CERTIORARI.

Petitioner respectfully prays that a Writ of Certiorari be granted to review the Judgment and Opinion of the United States Court of Appeals for the Seventh Circuit entered on September 23, 1975, petition for rehearing denied March 4, 1976 in Appeal No. 74-1924 entitled *E-T Industries, Inc.* v. *Whittaker Corporation and Des Plaines Grand Automotive Speed Center, Inc.*

OPINIONS BELOW.

The opinion of the Court of Appeals reprinted in the Appendix at App. 1 through App. 8 is officially reported at 523 F. 2d 636 (7th Cir. 1975). The opinion and order of

the United States District Court for the Northern District of Illinois, Eastern Division, dated October 31, 1974, reprinted in the Appendix at App. 9 through App. 17, is unofficially reported at 183 U. S. P. Q. 690 (N. D. Ill. 1974).[1]

JURISDICTION.

The decision of the United States Court of Appeals for the Seventh Circuit reversing the Trial Court was entered on September 25, 1975 and the Petition for Rehearing *en banc* was denied on March 4, 1976. The Order denying the Petition for Rehearing is reprinted at App. 18.

The jurisdiction of this Court is invoked under 28 U. S. C. Sections 1254(1), 2101(c) and 2101(e).

QUESTIONS PRESENTED.

1. Whether the conflict of decisions that exists among the Circuits as to the standard of Appellate review to be applied in judging *Graham* findings dealing with the issue of non-obviousness should be resolved?

2. Whether the decision of the Appeals Court in reversing the Trial Court is in conflict with the recent pronouncements of this Court that interpret 35 U. S. C. Section 103?

3. Whether in reversing the Trial Court, the Appeals Court erroneously distinguished the case at bar from this Court's pronouncement in *United States* v. *Adams*?

STATUTES INVOLVED.

Title 35 U. S. C. Section 103, which requires consideration in reviewing this Petition states that:

> "A patent may not be obtained though the invention is not identically disclosed or described as set forth in Section 102 of this Title if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains."

1. Hereinafter, references to the Appendix are designated as "App." with a page number.

STATEMENT OF FACTS.

This action was commenced on October 29, 1969 with the filing of a complaint in which the petitioner herein, as plaintiff, sought an injunction and damages arising from defendants' infringement of United States Letters Patent No. 3,329,468 issued on July 4, 1967 to Richard D. Beith.[2] Defendants by their answer denied infringement and raised the affirmative defense of invalidity. Trial was held in April of 1974 wherein there were numerous witnesses for both sides, documents and physical exhibits and extensive post-trial briefs. On October 31, 1974 the District Court handed down its opinion holding that the *Beith* patent was both valid and infringed (App. 9-17).

Defendants appealed from the Trial Court's Decision to the Appeals Court for the Seventh Circuit and on September 23, 1975 that Court reversed the Trial Court's Judgment on the ground that the subject matter of the *Beith* patent was obvious and therefore the patent was invalid under 35 U. S. C. Section 103 (App. 1-8). Plaintiff then sought a rehearing *en banc*. The Court of Appeals denied the request for rehearing in an order dated March 11, 1976 (App. 18).

This Petition for a Writ of Certiorari seeks review of the Appeals Court's errors of law, as well as clarification of the conflict that exists among the Circuits concerning the issue of non-obviousness.

E-T Industries, Inc. (hereinafter called "Plaintiff" or "E-T") is a California corporation having its principal place of business

2. The patent is reproduced in the Supplemental Appendix at App. 24-29 and is hereinafter sometimes referred to as the *Beith* patent.

in California. It is now a division of F. D. I. Inc., an automotive after-market manufacturer. Originally, the action was brought against Ansen Automotive Engineering, a wholly-owned subsidiary of Whittaker Corporation. Sometime after commencement of the litigation, Ansen was merged into Whittaker as a division. After trial, Whittaker Corporation was substituted as a defendant for Ansen. The other defendant, Des Plaines Grand Automotive Speed Center, Inc., is an Illinois corporation having its principal place of business in Illinois (hereinafter Whittaker and its distributor, Grand, will be referred to as "Ansen" or "defendants").

As the *Beith* patent (App. 19-24) sets forth, wheels are commonly secured to automobiles by means of a plurality of bolts or lugs projecting from a brake drum or axle flange, and cooperating lug nuts. There has been no standardization of the arrangement of such wheel lugs among different auto makers. The patent states that a main objective of the invention is to provide a wheel that is both decorative and universal. The wheel incorporates means for mounting it on brake drums having lug bolts arranged in bolt circles of the three most popular diameters for automobiles, *i.e.*, 4½ inches, 4¾ inches and 5 inches.

The specification sets forth several specific embodiments of the invention wherein a plurality of elongated rabbeted lug apertures are formed in the wheel. Adapters are used to positively index the wheel on the lug bolts as well as to clamp the wheel to the brake drum. The adapters are utilized in cooperation with the lug apertures and rabbeted seats of the wheel for selecting a desired one of three lug bolt circle patterns. The patent also teaches the concept of obtaining three different lug bolt patterns by reorienting adapters which have off-center holes formed therein to obtain two lug bolt diameters (4½ in. and 5 in.) and by utilizing adapters with centered holes in place of the adapters with off-center holes to obtain the middle diameter of 4¾ in.

Prior to the *Beith* invention, the industry had failed to provide an acceptable system that would eliminate the necessity of providing a different wheel for each lug bolt circle. One unsuccessful solution proposed and used in the past featured a massive adapter plate providing circularly spaced pre-drilled apertures to fit on lug bolts of a specified lug bolt circle diameter, as well as lug bolts arranged in a circle of another standard diameter, such as 5½ in. This required the manufacturer to stock wheels having apertures suited for fitting onto lug bolts arranged in a circle of 5½ in. diameter. Rather than stocking three sizes of wheels, three sizes of adapter plates were stocked. Defendant Ansen chose this unsuccessful solution for adapting its wheels to the three different bolt circle diameters. Subsequently, Ansen abandoned the adapter plate device and deliberately infringed the *Beith* patent. Another unsuccessful attempt at a universal wheel is the *Adair* patent, No. 2,590,363, cited and considered by the Patent Office which taught an emergency wheel for temporary use with elongated slots but lacking, for example, the positive locating and selecting features taught in the *Beith* patent.

At trial, defendants offered evidence regarding alleged activities with respect to an isolated, abandoned experiment in the form of the alleged Exhibit A-1 wheel (hereinafter also referred to as the "Fujii wheel"). Defendants attempted to show that the alleged Fujii wheel was devised by Ansen as a universal wheel prior to the *Beith* invention. Extensive testimony at trial revealed great doubt as to the time of manufacture, and even the very existence of the Fujii wheel. Consequently, the Trial Court found that the alleged activities of Ansen with respect to the Fujii wheel did not meet the required evidentiary standard of "clear and convincing" proof to be considered as invalidating the *Beith* patent. The Trial Court found that there was no documentary evidence which confirmed the existence of the Fujii wheel at the time alleged. The Court further found that the oral testimony of defendants' witnesses, Johnson and Fujii,

was unreliable in view of the many inconsistent and impeaching statements made under oath by both of the witnesses.

The Trial Court found that the *Beith* patent was valid and infringed. *Specific factual findings were made by the Trial Court on the various factual underpinnings identified in Graham* v. *John Deere, 383 U. S. 1 (1966): scope and content of the prior art; differences between the prior art and the claims at issue; and the level of ordinary skill of the pertinent art* (see Findings 21 through 31, App. 13-14).

Defendants appealed the Trial Court's decision to the Appeals Court which, after retrying all the factual findings of the Trial Court, reversed the Trial Court as well as the Patent Office, and held the *Beith* patent invalid for obviousness under 35 U. S. C. 103. In holding that the patent was obvious, the Appeals Court, *without finding the Trial Court's findings of fact clearly erroneous or even erroneous at all,* reversed the Trial Court's factual findings on the scope and content of the prior art, the differences between the prior art, and the level of ordinary skill. It is these unwarranted and arbitrary actions that are the subject of this Petition.

REASONS FOR ALLOWANCE OF WRIT.

1. The Conflict Among the Circuits as to the Extent of Review of the Issue of Non-obviousness Should Be Resolved.

Ten years after the *Graham* decision which was supposed to clarify matters, there is still a conflict among the decisions of the Circuits as to the standard of Appellate review of the issue of non-obviousness under 35 U. S. C. 103. One group of Circuits utilizes the "clearly erroneous" standard considering the determination of non-obviousness as purely factual; another group views the standard of review as being equivalent to that used for purely legal questions; finally, there are still other Circuits that employ standards of review that vacillate between

these two extremes as well as deal with patent validity as a mixed question of fact and law.

Both the law commentators as well as this Court have recognized the confusion that has been engendered by these various interpretations for the *Graham* case as to what extent the elements of patent validity are to be considered questions of law or questions of fact.[3] A review of the Appeals Court decision in the case at bar clearly shows that the Court erroneously

3. The Commission on Revision of the Federal Court Appellate System, in its report entitled "Structure and Internal Procedures; Recommendations for Change" 67 FRD 195 (June, 1975) recognized the conflict by stating:

> "The validity of a patent depends on several components, including novelty, utility, and non-obviousness (invention). The first two are customarily held to present issues of fact. However, the circuits are dividend on whether the element of non-obviousness is a factual question that may be submitted to a jury, or an issue of law to be decided by the judge alone. The question turns in large part on the proper interpretation of the relevant Supreme Court decisions. *At least three circuits have held that non-obviousness is an issue of law, while the Tenth Circuit has adhered to its view that non-obviousness is a factual question.* The issue is litigated frequently, as a review of the decisions in a recent Fifth Circuit opinion makes clear. In the most recent Tenth Circuit case, in which the court acknowledged the conflict, the Supreme Court denied certiorari. *Justice Douglas, in an opinion dissenting from the denial, took note of the differing views among the circuits.*" (*supra,* at 297) [Citations omitted; emphasis ours.]

Existence of the inter-circuit inconsistency in dealing with the issue of non-obviousness has drawn considerable attention from the law commentators. See 3 Patent Law and Practice, White, Patent Litigation: Procedure and Tactics § 7.05 [3]; 1 Patent Law Perspectives § A.1 [1] (Rel. No. 6/1974); Sherman, "Obviousness: A Question of Law or Fact?", 51 J. Pat. Off. Soc'y. 547 (1969); Wepner, *Appellate Review of Patentability,* 56 J. Pat. Off. Soc'y, 216 (1974).

A survey of recent circuit decisions highlights the conflict:

Tenth Circuit: Moore v. *Shultz,* 491, F. 2d 294 (10th Cir. 1974), *cert. denied,* 419 U. S. 930, at 300 (1974); "Thus, within the Tenth Circuit, novelty, utility, and non-obviousness are held to require factual determinations." See also the dissent to the denial for Writ of *Certiorari,* 419 U. S. 930, at 932 (1974) wherein Justice Douglas

(Continued on next page)

justified its excursion into the realm of fact finding regarding the *Graham* factual underpinnings on the ground that obviousness is ultimately a question of law, thereby clearly violating the mandate of *Graham* as to factual underpinnings as well as accepted rules of Appellate review. Initially, the Appeals Court *expressly complimented* the Trial Court's analysis of the issue of non-obviousness:

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argued in favor of granting Certiorari to prevent "haphazard application of the statutory and Constitutional standard".

Ninth Circuit: Hensley v. *Esco,* 375 F. 2d 432 (9th Cir. 1967); here, the question of non-obviousness was held to be a question of law, and the Appeals Court upheld the lower Court's application of the law to the *Graham* factual underpinnings.

Eighth Circuit: Hadfield v. *Ryan Equipment Company,* 456 F. 2d 1218, at 1219 (8th Cir. 1972); ". . . we observed that while the 'several basic factual inquiries' are to be reviewed within the confines of Rule 52(a) as findings of fact, the ultimate determination of obviousness *vel nan,* is to be reviewed as a question of law. [Citation omitted.] Under these principles the district court's findings with respect to the basic factual inquiries will be sustained unless clearly erroneous, and we will render an independent judgment on the issue of obviousness."

Seventh Circuit: Panther Pumps & Equipment Co., Inc. v. *Hydrocraft, Inc.,* 468 F. 2d 225, at 227 (7th Cir. 1972); "Unquestionably, the issue of validity is a question of law. Moreover, as this Court squarely held, after considering the matter *en banc,* the issue of obviousness is also a question of law."

Sixth Circuit: Westwood Chemical, Inc. v. *The Owens-Corning Fiberglas Corp.,* 445 F.2d 911 (6th Cir. 1971), *cert denied,* 405 U. S. 917 (1972); non-obviousness is held to be a question of law based on the *Graham* factual determinations.

Fifth Circuit: White v. *Mar-Bel, Inc.,* 509 F. 2d 287, at 290 (5th Cir. 1975); "That obviousness is a question of law cannot be doubted, but it must rest upon factual underpinning."

Fourth Circuit: Blohm and Voss A. G. v. *The Prudential-Grace Lines, Inc.,* 489 F. 2d 231 (4th Cir. 1973), *cert. denied* 419 U. S. 840 (1974); non-obviousness is characterized as a question of law. The dissent in *Blohm,* however, characterizes the majority's analysis of non-obviousness as "a *de novo* factual inquiry", upsetting the trial court's findings, thus encapsulating and perhaps best typifying the confused approach taken in resolving the question of non-obviousness in view of the required factual determinations set forth in *Graham* (*supra,* at 248).

(Continued on next page)

"There is no basis for criticizing the district court's analysis of this invention. He followed the procedure mandated by Graham vs. John Deere Co., 383 U.S. 1, 17-18, 86 S.Ct. 684, 15 L.Ed. 2d 545, [sic] his findings evidenced a thorough understanding of the invention and the prior art, and his judgment on the ultimate issue of validity is entitled to special respect because of his better opportunity to have the exhibits explained to him by expert witnesses and by the arguments of counsel. Nevertheless,

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(Continued from preceding page)

Third Circuit: Trio Process Corporation v. *L. Goldstein's Sons, Inc.,* 461 F. 2d 66 (3rd Cir. 1972); Non-obviousness is an ultimate legal conclusion, and the trial judge's ultimate legal conclusion as to validity carried with it the necessary implication that the differences between the invention and the prior art were obvious to a person having ordinary skill in the pertinent art, since the trial judge's findings indicate that he followed the tests mandated by *Graham.*

Second Circuit: Koppers Co., Inc. v. *S & S Corrugated Paper Machinery Co., Inc.,* 517 F. 2d 1182, at 1189 (2nd Cir. 1975); "This latter conclusion of obviousness is a matter of law for appellate review rather than a finding of fact. [Citations omitted.] We accordingly reviewed the record to reach an independent conclusion of law".

First Circuit: Shanklin Cork v. *Springfield Photo Mount Company,* 521 F. 2d 609, at 616 (1st Cir. 1975), *cert. denied,* 44 L. W. 3471 (1975); "Within this context [factual underpinnings required by *Graham*] the determination of non obviousness is a question of fact [citations omitted] and this court may not set aside the district court's findings unless they are clearly erroneous [citations omitted]".

D. C. Circuit: Blair v. *Dowd's Inc.,* 438 F. 2d 136 (D. C. Cir. 1970); Non-obviousness is a question of law, and the trial judge correctly made findings of fact mandated by *Graham* and drew a proper legal conclusion therefrom.

The view holding non-obviousness to be a question of law has found support in the D. C., Second, Third, Fourth, Fifth, Sixth, Seventh, Eighth, and Ninth Circuits. The First and Tenth Circuits persist in treating the issue as one of fact. However, even among those circuits treating the question as one of law, application of a standard of Appellate review is far from consistent, resulting in instances where Appeals Courts have been tempted to form their own judgments as to fact issues more properly relegated to the trial courts which should properly be disturbed only if clearly erroneous. See 23 ALR Fed. 326 at 352 for a discussion of the ofttimes tortuous and inconsistent approach taken by the courts.

> the obviousness question raises an issue of law on which we have an opportunity to make an independent judgment." (523 F. 2d at 641, App. 6.)

The Appeals Court used an erroneous standard of review in making its *own independent findings* with respect to the *Graham* "factual underpinnings" on the scope and content of the prior art, the differences between the prior art and the subject matter of the *Beith* patent, and the level of ordinary skill in the pertinent art.

A. Appeals Court Retrial of Scope and Content of Prior Art.

As to the matter of scope and content of the prior art, the Appeals Court erroneously found that the rejected teachings of the Fujii wheel (Exhibit A-1) and the other activities of Ansen were part of the prior art. See, for example, the Appeals Court Opinion wherein the court stated:

> "At about the same time that Beith developed the patented wheel, several employees of defendant Ansen were experimenting with the 'Fujii wheel' . . ." (523 F. 2d at 638, App. 3.)

Also, the court stated that:

> "We have also considered the relevance of the Fujii wheel. The fact that Ansen also experimented with enlarged lug openings and inserts is consistent with our conclusion that the concept was obvious . . ." (523 F. 2d at 642, App. 7.)

The Trial Court had specifically found that the Fujii wheel was *not* part of the prior art:

> "Defendant sought to invalidate the Beith patent on the grounds that Ansen's 'Fujii' [A-1] wheel constituted prior art in the public sphere as contemplated in 35 U.S.C. § 102(a). This contention is *rejected* for several reasons. First, Ansen did not sufficiently establish that the A-1 wheel, assuming arguendo that it was anticipatory, was in the public domain one year prior to the date of Beith's invention. This is highlighted by the conflicting testimony

> of Ansen's employees as to dates and exactly what was done to the wheel. Also, the lack of documentation and the casual manner in which the wheel was handled detract from the testimony's credibility and weight.
>
> "Second, the Court believes that Ansen's use of the A-1 wheel, assuming its existence at the time claimed, was merely an abandoned experiment. No records were kept or formal tests made. The wheel was out of Ansen's control for several years and was kept in a storage room. It was not shown to Ostergaard, who was aiding Ansen in its wheel development program. Ansen never pursued the manufacture of the wheel nor did it sell or attempt to sell even one wheel, and in fact abandoned it in favor of other types of wheels. See, e.g., Illinois Tool Works, Inc. v. Continental Can Co., 273 F. Supp. 94, 154 USPQ 401 (N. D. Ill. 1967), *aff'd*, 397 F.2d 517, 158 USPQ 437 (7th Cir. 1968).
>
> "Third, the Court believes that the evidence is not sufficient to show that the Fujii wheel 'anticipated' Beith's invention. . . ." (183 U. S. P. Q. at 697, App. 16) (Emphasis ours.)

In further *re*determinating the scope and content of the prior art the Appeals Court erroneously relied on the *Adair* and *Siler* patents—patents cited, considered and rejected by the Patent Office as well as by the Trial Court. The Trial Court's Findings of Fact 21, 22, 28, 30 and 31 stated *inter alia*:

> "21. The most pertinent patents relied on by the defendants are demonstrative of the scope and content of the prior art. These were the Adair patent (No. 2,590,363, issued in March 1952); the Vachon et al. patent (No. 3,166,357, issued in January 1965); the Martin patent (No. 3,025,109, issued in March 1962); the Hunter patent (No. 3,207,557, issued in September 1965); the Laycock British patent (No. 859,193, issued in January 1961); the Italian patent (No. 579,294, issued in May 1958); and the Crowther patent (No. 1,940,675, issued in December 1933). All of these patents, except Crowther, were cited by the U.S. Patent Office during the prosecution of the Beith patent.

"22. The Adair patent discloses a universal emergency wheel having elongated lug bolt apertures in the web. The apertures are radially elongated. Certain of the apertures are enlarged, i.e., the width thereof is much larger than the diameter of the lug bolt so that the lug bolts fit juxtaposed to one side of the apertures. *There is no easy way of positively locating and centering the Adair wheel on the hub. Also, there is no adapter utilized or taught by Adair; this is noticeably lacking. Since there is no adapter, there can be no seat region for an adapter.* The lug bolt apertures each have a separate chamfer at each end and a separate chamfer in the middle. The chamfers are to match the frusto-conical portion of the lug bolt nuts, but act to bend the lug bolts if the lug bolt nuts are tightened to the required torque. *The inventor Adair testified that the sample wheels which were manufactured did not have chamfers. Accordingly, Adair could not possibly have looked on the chamfers shown in the patent as necessary in his wheel for location.*

Furthermore, the Adair wheel does not provide a reliable wheel location, since it depends on the visual placement of the bolts on the enlarged opening and the friction created by the nut on the opening for positioning. The test which defendant ran on the Adair wheel disclosed that the wheel did not have a high level of reliability. Its rate of malfunction also was high. This supports plaintiffs' [sic] proposition and the inventor's conception that the wheel was meant only for emergency use and could not be relied upon as a permanent wheel.

"28. The Crowther patent was not cited by the United States Patent Office; however, it is far less important or pertinent than those patents that were cited by the Patent Office. Crowther is not concerned with a universal wheel; rather, it is concerned merely with detachably mounting wheels on hubs. Crowther provides a bolt nut having a convex split collar which cooperates with the concave contour of the seat around the lug bolt aperture to overcome any eccentricity caused by the attachment of the wheel to the hub. Crowther's collar is neither designed to, nor does it perform the function of the Beith adapter. Therefore, it is neither the adapter nor the equivalent of

the adapter. Also, Crowther fails to teach lug bolt apertures of a size to accommodate lug bolts arranged in different lug bolt circle patterns. *The statutory presumption of validity of the Beith patent is strengthened since the most pertinent prior art relied upon by the defendants consists of patents cited and considered by the Patent Office plus others that were less pertinent than what was considered in the prosecution of the Beith patent in the Patent Office.*

"30. After studying all of the prior art in the record, in addition to the aforementioned patents, the Court finds that there has been shown no prior art of record that includes any patents or written publications which overcome the statutory presumption of patent validity by clearly and convincingly proving that all the elements of the Beith patent were ever used or taught as claimed in the Beith patent prior to Beith's invention.

"31. *Nowhere in the prior art shown is there any prior patent or any combination of prior art patents that would enable one skilled in the art to construct the Beith invention.* Further, there is no justification for combining and modifying the patents for anticipation as the defendants assert. The prior art patents do not suggest or teach how they can be combined and modified in one particular way as Beith taught without utilizing the teachings of the Beith patent or without exercising invention. It should also be noted that there was no pattern in the development of the art which led to Beith's invention. In fact, the trend in development was toward the use of adapter plates rather than working with the lug bolt apertures themselves. Thus, even if individually the component parts of Beith were known, they are combined in such a way as to create a synergistic effect." (183 U. S. P. Q. at 694-695, App. 13-14) (Emphasis ours.)

Despite these specific determinations, the Appeals Court, without setting these findings aside as clearly erroneous, decided that the *Adair* and *Siler* patents taught "the essential parts [features]" of the *Beith* invention (523 F. 2d at 641, App. 6).

Further, the Appeals Court, without setting aside any findings of fact, also relied on an allegedly erased drawing of an inde-

pendent engineer, Ostergaard, who did some work for Ansen (523 F. 2d at 638, App. 3). The Trial Court had found that this evidence was of doubtful reliability (183 U. S. P. Q. at 693, App. 12).

B. Appeals Court Retrial of the Differences Between the Claimed Subject Matter and Prior Art.

The Appeals Court's erroneous retrial of the differences between the claims of the *Beith* invention and the prior art is in sharp contrast to the pertinent findings of the Trial Court. For example, the Trial Court found that an essential difference is the capability of using the adapter to selectively enable the wheel to fit a plurality of standard bolt diameters when the adapters are reoriented and seated in different positions (183 U. S. P. Q. at 695, App. 14). The Appeals Court, on the same characteristic, stated:

> "No particular importance is attached to the reversible character of the insert containing the eccentric hole because the patent would equally cover the use of three or more separate inserts, none of which was reversible." (523 F. 2d at 641, Footnote 14, App. 6.)

The Appeals Court relied on a misapprehension of fact as to the lack of importance of the dual orientation capability of the adapters where it characterized Beith's conception as having *only* "two essential parts [features]" (523 F. 2d at 641, App. 6).

(1) enlarging the lug [bolt] apertures; and

(2) effectively reducing the size of the lug bolt apertures to enable them to receive the normal lug bolts.

The Appeals Court completely ignored the unique features provided by the rabbetted apertured seat region of the wheel and adapter combination *as defined in the claims*, such as: (1) *the selectivity or different bolt patterns due to the capability of seating the adapters in at least two orientations;* and (2) *the automatic selectivity provided by non-circular adapters without visual*

orientation. In this regard, the Court is directed, for example, to Claim 1 of the patent in suit which contains the following language:

> ". . . the adapter receiving seat region and adapter means formed to allow the seat region to snugly receive the adapter means in at least two orientations . . ." (App. 29).

Both of these differences which were totally overlooked by the Appeals Court are set forth in Findings of Fact 32 and 33 as well as in the claims of the *Beith* patent (183 U. S. P. Q. at 695, App. 14).

C. Appeals Court Retrial of the Level of Ordinary Skill in the Pertinent Art.

Findings 34 and 35 of the Trial Court distinctly and clearly resolved the "level of ordinary skill" based on many factual findings. The Appeals Court seemingly agreed with Finding 34 which states *inter alia*:

> "The level of ordinary skill in the automotive wheel field is such that those skilled in the art would not have gone in the direction that Beith went at the time of his invention . . ." (183 U. S. P. Q. at 695, App. 14).

Finding 35 states *inter alia*:

> ". . . In addition, as required by 35 U.S.C. 103, this Court has given full and careful consideration to the scope and content of the prior art, with respect to universal wheels, and therefore, to the differences between the prior art and the claimed subject matter of the patent, *and to the level of ordinary skill in the art, with emphasis on the actual performance of men of at least ordinary skill.* Against this background, the Court finds that the claimed subject matter would not have been obvious to a man of ordinary skill in the art at the time the invention was made, in view of the prior art asserted by defendants, taken either singly or in combination. Moreover, the finding by this Court of non-obviousness is reinforced by the objective evidence of patentability present in this case, including the recognition

> of great merit paid to the invention by Filter Dynamics International, Inc., as shown by their investment in the patent, and by the commercial success of the patented invention, the long-felt need for an acceptable universal wheel, the prior failures on the part of workers (such as Johnson) of at least ordinary skill in the art, and failure on the part of the defendants to find more pertinent prior art than that which was cited in the United States Patent Office, even after an exhaustive search for such prior art." (183 U. S. P. Q. at 696, App. 15) (Emphasis ours.)

The Appeals Court, in its erroneous retrial of the facts, went on to reject the impressive array of historical *facts* as found above, when it stated:

> ". . . The [Beith] combination . . . *would* therefore be patentable . . . if a person skilled in the art, fully aware of the separate elements of Beith's concept would not be expected to combine them . . . In this case . . . it *seems* rather clear that an artisan who conceived of the first step in his consideration of the problem of making an interchangeable wheel *would* readily recognize the need for an adapter . . ." (523 F. 2d at 641, App. 6) (Emphasis ours.)

The Appeals Court, by its action, implicitly rejected Findings 34 and 35 without finding them clearly erroneous, and substituted its own subjective feeling to evaluate the "level of skill". The erroneous conclusion that the *Beith* invention was obvious was therefore based upon the treatment by the Appeals Court of the issue as *purely legal,* consequentially retrying almost every factual finding of the Trial Court, thereby violating the accepted rules of Appellate review.

2. The Decision of the Appeals Court in Reviewing the Trial Court's Finding of Patent Validity Is in Conflict with the Pronouncements of This Court Relating to 35 U. S. C. Section 103.

The Appeals Court standard of review in the face of the Trial Court's findings of fact demonstrates that the Seventh Circuit Appeals Court is one of a group of Circuits which

consider the issue of obviousness as a *purely legal* issue, and, as such, is in conflict with this Court's interpretation of 35 U. S. C. Section 103 as set forth in *Graham* v. *John Deere Co.*, 383 U. S. 1 (1966), *Anderson's-Black Rock Inc.* v. *Pavement Salvage Co.*, 396 U. S. 57 (1969), and *Sakraida* v. *Ag Pro, Inc.*, ... U. S. ....., 189 U. S. P. Q. 449 (1976) (App. 19-23). In *Ag Pro,* this Court reaffirmed the *Graham* and *Anderson's-Black Rock* decisions as authority for the proposition that while the ultimate issue of the validity of a patent is one of law, it depends on several *factual* questions.

To apply the *Graham* doctrine, in the case at bar, in the manner that the Appeals Court did, renders the doctrine meaningless. If the objective, pragmatic evidence which formed the findings of fact of the Trial Court regarding the *Graham* factual considerations can be ignored in favor of the subjective reaction of the Appeals Court, then one of the most important objectives of this Court in the *Graham* decision, *i.e.,* to achieve uniformity and definiteness in the trial and review of the issue of obviousness, will be defeated.

In particular, this Court held that the standard of invention to be applied to determine the validity of a patent had been codified by Section 103 of the Patent Act of 1952 in the concept of "non-obviousness" which took the place of the "less definite [term] 'invention' " (383 U. S. at 14) that had grown to be widely used in the more than one hundred decisions since the decision in *Hotchkiss* v. *Greenwood,* 52 U. S. 248 (1851).

This Honorable Court extensively analyzed the background and legislative history of Section 103 in *Graham* and stated that:

> "Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background the obviousness or nonobviousness of the subject matter is determined." (383 U. S. at 17.)

The purpose of requiring the Courts to follow this decisional process was clear. It was to prevent an empty, meaningless procedure that would provide no greater uniformity or definiteness than had been the case under the *Hotchkiss* rule. The purpose was to make the determination of non-obviousness a "functional" decision (383 U. S. at 12) based as much as possible on objective evidence resulting from "factual inquiries" (383 U. S. at 17) made in "factual context" (383 U. S. at 18). The express goal was to bring "more stability and predictability in determining patentability and validity" (383 U. S. at 16), thus assuring achievement insofar as possible of "that uniformity and definiteness which Congress called for in the 1952 Act" (383 U. S. at 15, 18).

The Court specifically stated that:

> "While the ultimate question of patentability is one of law . . . the Section 103 condition which is but one of three conditions, each of which must be satisfied, lends itself to several basic factual inquiries." (383 U. S. at 17.)

Following *Graham* in the *Anderson's-Black Rock* case, this Honorable Court restated that "strict observance" of the requi site factual findings of *Graham* is necessary in determining non-obviousness under Section 103. In its recent pronouncement in *Ag Pro*, this Court again reaffirmed that the Appeals Court cannot reverse findings of fact dealing with patent validity unless there isn't support in the record and therefore is clearly erroneous. Thus, Rule 52(a) F. R. C. P. was followed by this Court in *Ag Pro* in reviewing findings of fact of the Trial Court.

Yet in the case at bar, after complimenting the Trial Court on its findings, the Appeals Court retried substantially *all* the facts on the ground that "obviousness is an issue of law". As has happened in many other cases, the Court "justified" its retrial of the facts on the basis that obviousness or non-obviousness is ultimately a question of law. *By reforming or "retrying" the factual findings regarding scope and content of the prior art, the differences between the prior art and the claims in issue, and the level of ordinary skill in the art, while praising*

the findings of the Trial Court, the Appeals Court has defeated the purpose of the Graham doctrine.

The question of obviousness was one of the foremost issues at the trial as is evidenced by the treatment of the subject in the Trial Court's Opinion. The late Honorable Richard W. McClaren recognized the applicability of Section 103 and acknowledged this Court's mandate for a thorough consideration of the issue. The Trial Court extensively reviewed the prior art in order to determine the scope and content thereof in Findings 21 through 31 (183 U. S. P. Q. at 694-695, App. 13-14). Next, the Trial Court reviewed the differences between the prior art and claims at issue in Findings 32 and 33 (183 U. S. P. Q. at 695, App. 14). Then the Trial Court made specific findings as to the level of ordinary skill in the art in Findings 34 and 35 (183 U. S. P. Q. at 695-696, App. 14-15).

In making its factual determinations leading to the conclusions of non-obviousness, the Trial Court clearly recognized that its primary responsibility was to evaluate the invention in light of the prior art and also in light of the secondary considerations of *Graham*. As the trial record shows, each of the items of prior art was the subject of testimony and documentary evidence which underwent careful scrutiny by the trial judge. From a review of the Trial Court's decision, it is clear that the Trial Court considered and determined the question of non-obviousness in precisely the method ordained in Section 103 and decreed by this Court.

Despite the Appeals Court's praise of the Trial Court, it is evident that the Court chose to substitute its own judgment for the Trial Court's evaluation of the witnesses' testimony based upon the cold record on appeal. It is also clear that the Appeals Court read things into the exhibits and the testimony that are simply not there, leading to results at substantial variance with the evidence and findings of the Trial Court. Petitioner submits that the Trial Court went *beyond* its jurisdiction to review the

ultimate question of non-obviousness. Therefore, this Petition should be granted to make this decision consistent with the decisions in *Graham*, *Anderson's-Black Rock*, as well as *Ag Pro*.

3. The Appeals Court Incorrectly Distinguished the Case at Bar from U. S. v. Adams.

The Appeals Court's decision was completely contrary to the case of *U. S.* v. *Adams*, 383 U. S. 39 (1966). In that case, this Court stated that known disadvantages in old devices which would naturally discourage the search for new inventions may be taken into account in determining obviousness. Further, this Court stated that disbelief by experts in the art would also be evidence of non-obviousness. In the case at bar, both the Trial Court and the Appeals Court found that *Beith* had gone in a direction *opposite* to good engineering practice, since the part of the wheel where the elongated slots were to be formed was structurally the weakest part of the wheel. Much concern had been shown for the strength of wheels in this critical area.

The Appeals Court agreed with the Trial Court's finding that *Beith* took a step in a direction opposed to the teachings of the prior art and stated that:

> ". . . Beith's invention took a step in a direction opposed to the teaching in the prior art, are supported not only by Siler and by Beith's testimony describing the first foundry's objection to sandcasting a wheel with larger openings in the web, but also by Plaintiff's expert Nass, who testified that enlarging the holes to accept different lug patterns would be considered 'a pretty brash move' likely to produce 'some kind of trouble' " (523 F. 2d at 640, App. 5).

Even with these statements, the Appeals Court went on to distinguish this case from *Adams* based on its erroneous view of the facts as well as the law. The Appeals Court, in its erroneous reevaluation of the evidence, attempted to distinguish this case from *Adams* on the ground that the expert Nass testified that there is always some trouble with a new design which can be

overcome; the by-word was to "be careful with the new design". In Petitioner's view, a reading of the Opinions below and the Record, confirms that neither Nass' testimony nor the Trial Court's view of it can be interpreted to mean that the known problems with Beith's proposed design should have been taken as routine design problems capable of routine solutions. Otherwise, Nass or the Trial Court or even the Appeals Court would not have confirmed that Beith's invention went against good "engineering principles" and it was a "brash move" bound to produce some "kind of trouble" (523 F. 2d at 640, App. 5). Thus, the Appeals Court took Nass' testimony out of context and unjustifiably reshaped it in a manner that was not intended by Nass or the Trial Court. This is yet another example of what happens when an Appeals Court retries facts most properly determined at the trial level.

Further, in finding for the defendants, the Appeals Court erroneously limited the teachings of *Adams* to a situation where investigation into the area in which the invention was made would have been "purposeless" (523 F. 2d at 642, App. 7). The proper test in the *Adams* case is whether known disadvantages in the prior art would *discourage* the search for new inventions in a particular area, that is, were artisans at the time of the invention *discouraged* from further effort. The test is *not* whether artisans were barred by a feeling of "purposelessness" from investigating in the direction that the inventor had taken. If "purposelessness" were the standard to be used to judge whether an investigation was inventive or unobvious, all inventions, including *Adams'* invention, would have to be considered obvious! Certainly such an impossible standard was not intended by this Court in the *Adams* case.

Since the Appeals Court relied heavily on this erroneous limited interpretation of the *Adams* case as well as on an erroneous reshaping of the facts in reaching its conclusion of obviousness, it is clear that the Appeals Court would have sustained the validity of the patent had it not made these errors. Thus, the Appeals Court decision should be reversed.

CONCLUSION.

While it should be noted that the *Beith* patent was purchased by the Petitioner for $1,375,000.00 and approximately $7,500,000.00 had been invested in its commercial exploitation prior to trial, the decision of the Appeals Court goes beyond the plight of the parties involved, since the legal criteria of patentability used by the Trial and Reviewing Courts is of grave public concern. It has long been recognized that arbitrary and subjective methods in trying and reviewing patent cases will eventually destroy the essence of the patent system and thereby destroy any meaning to Article I, Section 8, Clause 8 of the Constitution, the purpose of which is to promote and stimulate the progress of science and the arts.

Even 200 years after the adoption of the Constitution, it is well recognized that the United States should preserve the patent system "to provide a maximum of growth effort at the least cost to the taxpayer" (speech of Patent Examiner C. Marshall Dann, as reviewed in BNA's *Patent, Trademark and Copyright Journal*, No. 278, May 13, 1976).

Respectfully submitted,

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Appendix

Note:

Appendix pages App. 1 through App. 23 are in this volume. Appendix pages App. 24 through App. 29 [Beith Patent No. 3,329,468] are in a separate, larger Supplemental Appendix.

different makes of cars was obvious, and accordingly the patent was invalid.

Reversed.

1. Patents ⇐324.55(3, 4)

District court's judgment on ultimate issue of validity of patent was entitled to special respect because of his better opportunity to have the exhibits explained to him by expert witnesses and by arguments of counsel, but obviousness question raised an issue of law on which the Court of Appeals had a responsibility to make an independent judgment.

2. Patents ⇐18

Subject matter of patent on automobile wheel that would fit different makes of cars was obvious, and accordingly the patent was invalid. 35 U.S.C.A. § 103.

E-T INDUSTRIES, INC.,
Plaintiff-Defendant-Appellee,

v.

WHITTAKER CORP. and Des Plaines Grand Automotive Speed Center, Inc.,
Defendants-Plaintiffs-Appellants.

No. 74-1924.

United States Court of Appeals, Seventh Circuit.

Argued Feb. 24, 1975.

Decided Sept. 25, 1975.

In patent case involving competing manufacturers of "mag wheels," the United States District Court for the Northern District of Illinois, Eastern Division, Richard W. McLaren, J., entered judgment from which appeal was taken. The Court of Appeals, Stevens, Circuit Judge, held that subject matter of patent on automobile wheel that would fit

Richard Bushnell, Chicago, Ill., for defendants-plaintiffs-appellants.

Irwin C. Alter, Chicago, Ill., for plaintiff-defendant-appellee.

Before CASTLE, Senior Circuit Judge, and SWYGERT and STEVENS, Circuit Judges.

STEVENS, Circuit Judge.

Were it not for the fact that the invention was a step in a direction opposite to what was considered good engineering practice, Beith's discovery of an automobile wheel that would fit different makes of cars would surely be considered obvious. The principal question presented by this appeal is whether the district court's findings that Beith ignored the risks that would have deterred others skilled in the art saves the patentability of an otherwise obvious conception.

1. It would appear, however, that the Pennsylvania regulation may not be enforced insofar as it predicates eligibility for medical assistance payments on conditions that were specifically invalidated in *Doe v. Bolton*, 410 U.S. 179, 93 S.Ct. 739, 35 L.Ed.2d 201 (1973), namely, a concurrence of two doctors and performance of the procedure in an accredited hospital.

I.

The parties are competing manufacturers of "mag wheels."[1] Mag wheels are specially designed wheels, usually cast aluminum and sometimes containing a magnesium alloy, intended to enhance the appearance of a car. They are more expensive than normal wheels. A buyer of such wheels, especially one who frequently changes cars, often wants to use the same wheels on successive cars. Car wheels, however, are not interchangeable because there has been no standardization among automobile manufacturers on the arrangement of the lugs which project from the brake drum or axle to secure the wheel. The lugs, of course, are arranged in a circle and usually there are five for each wheel. The most popular makes of cars, however, employ lug bolt circles of three different radii —4½ inches for Ford and Chrysler cars; 4¾ inches for Chevrolets; and 5 inches for the larger General Motors cars. The marketability of a mag wheel is significantly greater if it will fit all three of the most frequently used lug bolt arrangements than if it will fit only one.[2] The purpose of Beith's invention was to make a wheel that would fit lug bolt circles of different radii.

Beith's solution to the problem was simple. He elongated the lug apertures in the wheel sufficiently to accommodate lug bolts arranged in circles of different radii; he then inserted adapters to fit snugly into the enlarged lug apertures; each adapter, in turn, contained a hole through which the lug projected. One set of adapters contained off-center holes. If such an adapter was turned in one direction, the opening would be 4½ inches from the axle; reversed, the radius would be 5 inches. In a second set of adapters a central hole would accommodate a radius of 4¾ inches.

The patent describes various shapes of lug openings and adapters to fit them. The basic idea, however, was simply an enlarged lug opening to be fitted snugly with one or more inserted adapters, the position of which would determine the lug circle radius which the wheel would fit.

Beith conceived his invention in January of 1965. At that time he was running a small company manufacturing custom wheels with three different predrilled bolt patterns.[3] He took one of those wheels and enlarged the lug aperture by drilling all three standard lug patterns into it and then experimented with cardboard inserts to make sure that the wheel would fit all three sizes.

He requested the foundry which was casting wheels for his company to sandcast the new wheel for him with the enlarged lug openings. Beith testified that executives of the foundry expressed concern about their ability to sandcast the holes accurately and about the possibility that the wheel would be weakened by the elimination of additional metal, which in turn might subject the company to product liability problems. A second foundry, which used a permanent mold process rather than sandcasting, agreed to make wheels for Beith. That company insisted, however, that Beith make better drawings and recommended an engineer to review the project.

1. Plaintiff E-T Industries is a wholly-owned subsidiary of Filter Dynamics International, Inc., which purchased E-T's stock from the inventor Beith in 1970. Ansen Automotive Industries was at the time of the trial a wholly-owned subsidiary of Whittaker Corporation. After trial Ansen was merged into Whittaker, which was then substituted as a defendant. Defendant Des Plaines Grand Automotive Speed Center, Inc., is a distributor of Ansen's wheels.

2. Because of the high cost of custom wheels, the variety which a dealer could carry in inventory was limited. Thus, a wheel which could be used interchangeably on all three sized lug patterns provided the dealer, as well as the customer, with significant economies.

3. Beith graduated from college in 1958, taught school for about five years, and apparently formed his wheel company about a year or two before he conceived the patented invention.

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Beith discussed the problem of weakening the wheel by enlarging the lug apertures, but the engineer "felt that it could be accomplished, or at least we could certainly experiment; the only way we would really know was to go ahead and make the drawings, have molds made, cast some wheels and really, because there was no testing at that time, market the product and find out the real test, the real proof. It was all conjective at that point as to whether the product would function out on the highway, on the automobiles, in the marketplace." Tr. 77.

Beith filed his original patent application in July. In October, 1965, he tested the new wheel in operation, found that it worked, and began to sell it commercially. Sales increased dramatically. Plaintiff had commenced operation on an investment of $750; in 1970, Beith sold the company to Filter Dynamics for FDI stock valued at $1,375,000. Thereafter, annual sales grew from about $2,500,000 to almost $13,000,000 in three years.

At about the same time that Beith developed the patented wheel, several employees of defendant Ansen were experimenting with the "Fujii wheel"—so named because it was placed on the 1951 Chevrolet which an Ansen employee named Dennis Fujii drove to work every day. The Fujii wheel was a standard wheel on which the lug apertures were enlarged to hold an insert which enabled the wheel to fit the 4¾ inch lug circle. The insert used in the Fujii wheel would fit only a Chevrolet, but it is apparent that the Fujii concept, just like Beith's, would be equally useful with different inserts for different sizes.[4] Defendant adduced oral testimony to prove that the Fujii wheel was in public use more than a year before Beith filed his patent application. The district court found this evidence of doubtful reliability.[5] Moreover, he noted that Ansen did not proceed with the development of an interchangeable wheel employing the Fujii concept, but instead developed an entirely different wheel embodying a so-called "knock-off lug" modeled after wheels used on racing cars.

Later, after acquiring Ansen, defendant investigated the Beith patent and started to manufacture and sell wheels which the district court found to infringe.

The district court reviewed the prior art in detail. We need mention only two items, Adair[6] and Siler.[7]

Adair disclosed a wheel which will fit lug circles not only of different diameters but also containing different numbers of lugs. Like Beith, it had elongated lug apertures to accommodate different sizes, but it also had extra openings, some of double width, to make it possible to fit six as well as five lugs with the

4. The insert used in the Fujii wheel contained an off-center hole to receive lug bolts from a Chevrolet. Since the lug circle radius on a Chevrolet is 4¾ inches, reversal of that insert would accommodate a radius of 5¼ inches. No American car uses that lug arrangement and, therefore, as the district court found, the actual Fujii wheel fit only one sized car. The district court also noted doubt as to whether the insert actually used with the Fujii wheel could have been reversed. It seems quite clear, however, that the invention described in the patent would cover a wheel which used three different inserts to fit the three wheel sizes, as well as one which uses two inserts, one containing a concentric hole and the other containing an eccentric hole useful in two positions to accommodate three sizes.

5. The evidence established that Ansen initiated a wheel development program in 1964. An independent engineer named Ostgaard prepared a number of design drawings for Ansen during the period between May and November, 1964. Since he was not told about the Fujii wheel, it seems likely that that wheel was made later. On the other hand, one of Ostgaard's early pencilled drawings originally depicted enlarged lug apertures which were erased when a design change was made.

6. Adair Patent No. 2,590,363, issued on March 25, 1952, covering "wheel adaptable to different hubs."

7. Siler Patent No. 3,006,443, issued October 31, 1961, covering "Method and Apertures for Attaching Juxtaposed Members."

APP. 3

same wheel.[8] Adair merely disclosed the idea—which we think would be obvious even without Adair—that enlarged lug apertures would enable a wheel to fit lug circles of different diameters.

The Siler invention did not relate to wheels. It was concerned with the problem of securely attaching two parts, such as metal plates or sheets, which contain holes that are somewhat misaligned, and therefore will not accommodate a fastener such as a rivet or a bolt of the same size as the holes. The patent teaches that it is undesirable simply to enlarge the hole in one of the two plates and then to use a rivet or bolt of the same size as the original hole.[9] Instead, the patent teaches the use of adapters containing small off-center holes which can be aligned with one another, and through which a smaller bolt or pin can be inserted to fasten the members together.

The Siler patent is relevant to the Beith invention in two different ways. On the one hand, its admonition not to enlarge bolt holes unnecessarily supports the district court's findings that Beith's conception, insofar as it enlarged the lug apertures in the web of the wheel, was contrary to accepted engineering practice.[10] On the other hand, Siler also taught that an adapter, or insert, could be used to secure a relatively small bolt

8. Adair's basic idea was to have a universal emergency wheel which could be substituted for a damaged wheel on almost any vehicle in order that the vehicle could be driven instead of towed to a repair facility.

9. The Siler specifications state, in part:

"Frequently, the mechanic working with supposedly exact and interchangeable parts finds some members deviating so far from the desired standard that they cannot be bolted or riveted or otherwise properly fixed together. Thereupon, he frequently resorts to an undesirable expedient which will forever thereafter preclude the replacement and integration into the device (as when undergoing repairs) of a truly standardized part or parts.

"In such undesirable practice, the mechanic proceeds to drill new holes by hand, or ream and enlarge the misaligned holes, so that they will receive bolts or other fastening elements.

"Such expediency and ill considered practice will produce a weakened structure because it has been provided with irregular or enlarged holes greatly exceeding the limits of tolerance allowed by the designing engineers and/or failing to meet the requirements of standards in strength and stability."

10. The relevant findings are Nos. 9 and 34, which read as follows:

"9. The approach Beith decided to take was opposite to what was considered good engineering practice,[4] because the part of the wheel where the elongated slots were to be formed was structurally the weakest part of the wheel. Much concern had been shown for the strength of wheels in this critical area. His solution to the long-existing problem was an unexpected and unobvious acceptable solution since people with ordinary skill would have sought an acceptable solution by using large adapter plates."

"34. The level of ordinary skill in the automotive wheel field is such that those skilled in the art would not have gone in the direction that Beith went at the time of his invention.[9] Beith removed material from what is considered a critical portion of the wheel—the central mounting portion or web near the central hub opening. Thus, Beith went in a direction opposite to the direction that was being taken by those having ordinary skill in the art. By doing so, the public was provided with a universal wheel that was smart looking, in that the elongated slots were directly in the web of the wheel itself and small adapter means were used to obtain universality. Such wheels could be manufactured and operated easily while still having a pleasing appearance as well as reliably locating and attaching the wheel to the brake drum.

[4] *Cf.* U.S. Letters Patent No. 3,006,443 (Siler) at column 1, lines 50–60.

[9] This is brought home by the fact that Ansen rejected the idea of elongated apertures and opted for a plate system at around the same time as Beith was developing his wheel."

The footnotes are the court's.

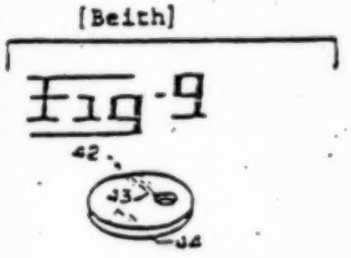
APP. 4

in a large opening.[11] Thus, if we consider the two parts of the Beith invention separately, in effect Siler taught (a) that the lug apertures should not be enlarged, but (b) if they should be enlarged, the oversized openings could nevertheless be secured to a normal lug by using an adapter, or insert, containing a smaller hole fitting the lug bolt.

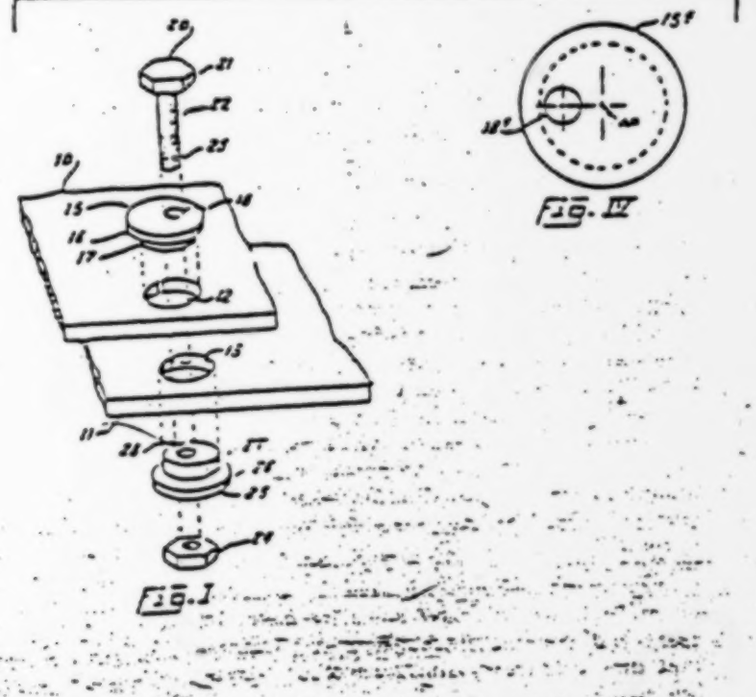
The district court's findings that Beith's invention took a step in a direction opposed to the teaching in the prior art are supported, not only by Siler[12] and by Beith's testimony describing the first foundry's objection to sand-casting a wheel with larger openings in the web, but also by plaintiff's expert Nass, who testified that enlarging the holes to accept different lug patterns would be considered "a pretty brash move" likely to produce "some kind of trouble."[13] He further explained that to

11. The adapter, or insert (44) in Fig. 9 of Beith's patent (shown below on the left) is similar to the adapter, or insert (15) in Figs. I and IV of the Siler patent (shown on the right).

[Beith]



[Siler]



12. Actually, the portion of the Siler specifications on which the district court relied is a comment on the undesirability of enlarging a hole in a prefabricated part, rather than a comment on the possible consequences of designing an entirely new product containing larger holes than those found in a previous design.

13. He testified at Tr. 299–301:

"Q In your opinion would it be good design to remove the amount of material that has been removed there as opposed to just a small circle as a pre-drilled wheel had?

"No. If I might state your question the way I understand it, we assume we start with a wheel that merely has drilled holes in it in normal application. Now we consider enlarging the holes to accept the UNI-LUG system.

"Q Yes, sir. Right.

"A Well, in my opinion that would be a pretty brash move because it is in an area where the stress level is quite high. From the tests I have run, you would be, so to speak, asking for trouble by making a move of this kind.

"Q Would you say that that would be going in the opposite way of good wheel design?

"A I believe logically it would be going in the wrong direction, yes.

"Q Based on that opinion, do you think it would have been expected for some one to

determine whether a change like that would be acceptable, it would be necessary to make several tests, and then added:

Well, I can state that by my experience, that is the typical way that alterations and modifications to wheels are made. Frequently there is very little what you might call rigorous analysis involved in it. They will make a modification and then the wheels will be sent down to me for an evaluation and certain road levels are applied to the wheels, and sometimes the wheels are what is known as stress coated to study the stress pattern in the wheel to gain a knowledge of what is going on in the wheel, and then from that knowledge further changes may be made. There could be an alloy section change made. There could be a section thickness change made or some other changes made to get the wheel up to a point where it would be satisfactory again structurally.

Tr. 301–302. On cross-examination he testified that if a wheel or any other structure is weakened by removing material, the weakness could be counteracted by adding or repositioning other material. For example, he said:

The strength of any structure depends on two things, basically—what the material is that you are using, the quality of the material, and No. 2, on the geometry. Between those two variables you can generally get about everything you need in structure. Tr. 411.

II.

[1] There is no basis for criticizing the district court's analysis of this invention. He followed the procedure mandated by *Graham v. John Deere Co.*, 383 U.S. 1, 17–18, 86 S.Ct. 684, 15 L.Ed.2d 545, his findings evidence a thorough understanding of the invention and the prior art, and his judgment on the ultimate issue of validity is entitled to special respect because of his better opportunity to have the exhibits explained to him by expert witnesses and by the arguments of counsel. Nevertheless, the obviousness question raises an issue of law on which we have a responsibility to make an independent judgment. In this case that judgment involves a three-step consideration: first, whether each element of the invention is obvious; second, if so, whether the combination is obvious; and third, if the combination seems obvious in itself, whether the rejection of the contrary teaching in the prior art requires a different conclusion.

Each of the two essential parts of Beith's conception—first, enlarging the lug apertures to receive bolt arrangements of different radii; and second, effectively reducing the size of the enlarged openings to enable them to receive normal lug bolts—was unquestionably taught by the prior art. The combination, however, was new. It would therefore be patentable if it produced a result other than the anticipated sum of the separate parts, or if a person skilled in the art, fully aware of the separate elements of Beith's concept, would not be expected to combine them when looking for the solution to the problem of making an interchangeable wheel. In this case, the combination cannot be described as synergistic, and it seems rather clear that an artisan who conceived of the first step in his consideration of the problem of making an interchangeable wheel would readily recognize the need for an adapter or an insert.[14] We are persuaded that the ultimate conclusion of non-obviousness can only be supported

go in that direction to reach the result obtained with the UNI-LUG system?

. . . . . .

"My feeling in the matter is that a person, if he appreciated what was going on stress-wise in a wheel, he would soon realize that making a move of this kind, he would probably get into some kind of trouble."

14. No particular importance is attached to the reversible character of the insert containing the eccentric hole because the patent would equally cover the use of three or more separate inserts, none of which was reversible.

by the district court's reliance on the adverse teaching in the prior art.[15]

In *United States v. Adams*, 383 U.S. 39, 86 S.Ct. 708, 15 L.Ed.2d 572, the Court's conclusion that the discovery of a water activated battery, using magnesium cuprous chloride electrodes, was nonobvious rested heavily on evidence that long accepted factors would deter any investigation into the combination used by Adams.[16] The reasoning of the *Adams* case is not applicable to Beith's invention.

The Adams battery generated large quantities of heat during normal operation and the prior art taught that such a battery was not practicable. Moreover, the prior art also taught that water activated batteries were only successful when used with electrolytes harmful to magnesium. The court was persuaded that both of these long-accepted factors would deter *any investigation* of the combination which Adams found to be unexpectedly successful.

In this case, the contrary factor was merely the rather obvious notion that enlarging holes in a structural member will weaken it to some extent. But the record establishes that it was equally clear that some enlargement might be tolerated and that modifications in design or material strength might overcome the effect of the loss of some material. As the testimony of plaintiff's own expert indicates, the problem was not so serious as to deter any investigation at all of enlarged lug apertures, but rather it was a problem typical of almost any new wheel design which would normally require careful testing and perhaps further experimentation and modification.

The prior art taught that interchangeability might be achieved by using enlarged lug apertures, but that any such new design should be carefully tested to be sure it was safe. This prior art warning to be careful with the new design is not, in our judgment, equivalent to the uniform prior art teaching in *Adams* that any investigation of the use of the magnesium electrode in a water activated battery would be purposeless.

We have also considered the relevance of the Fujii wheel. The fact that Ansen also experimented with enlarged lug openings and inserts is consistent with our conclusion that the concept was obvious, whereas the fact that Ansen did not go forward with the development of this kind of wheel until after Beith had demonstrated its feasibility tends to undermine that conclusion. It does not, however, support the applicability of the *Adams* rationale to this case because there is no evidence that Ansen's decision not to go forward with the Fujii wheel rested on any concern about weakness caused by enlarging the lug openings. On the contrary, the fact that the Fujii wheel was in fact made and actually tested indicates that the prior art did not completely deter any experimentation with this concept.

[2] We conclude that the subject matter of the Beith patent was obvious within the meaning of 35 U.S.C. § 103 and, accordingly, that the patent is invalid.

Reversed.

15. We do not ignore the substantial evidence of commercial success which buttresses the district court's conclusion of validity, but such success is not by itself sufficient to show nonobviousness. Rather, it must be weighed with all the other evidence in the record.

Novo Industrial Corporation v. Standard Screw Company, 374 F.2d 824 (7th Cir. 1967); *Application of Cline*, 345 F.2d 847, 52 CCPA 1404 (1965).

16. "We conclude the Adams battery was also nonobvious. As we have seen, the operating characteristics of the Adams battery have been shown to have been unexpected and to have far surpassed then-existing wet batteries. Despite the fact that each of the elements of the Adams battery was well known in the prior art; to combine them as did Adams required that a person reasonably skilled in the prior are must ignore that (1) batteries which continued to operate on an open circuit and which heated in normal use were not practical; and (2) water-activated batteries were successful only when combined with electrolytes detrimental to the use of magnesium. These long-accepted factors, when taken together, would, we believe, deter any investigation into such a combination as is used by Adams. This is not to say that one who merely finds new uses for old inventions by shutting his eyes to their prior disadvantages thereby discovers a patentable innovation. We do say, however, that known disadvantages in old devices which would naturally discourage the search for new inventions may be taken into account in determining obviousness.

"Nor are these the only factors bearing on the question of obviousness. We have seen that at the time Adams perfected his invention noted experts expressed disbelief in it. * * * Furthermore, in a crowded art replete with a century and a half of advancement, the Patent Office found not one reference to cite against the Adams application." 383 U.S. at 51–52, 86 S.Ct. at 715.

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District Court, N. D. Illinois, E. Div.

E-T INDUSTRIES, INC. v. WHITTAKER CORPORATION et al.

70 C 2498, 71 C 3133
Decided Oct. 31, 1974

PATENTS

1. Patentability — Anticipation — Experiments (§51.209)

Defendant's abandonment of experimental device, which is alleged to anticipate plaintiff's patent, confirms that patented invention was not obvious to defendant, who is skilled in the art.

2. Presumption from patent grant — Patent Office consideration of prior art (§55.5)

Statutory presumption of patent validity is strengthened where the most pertinent prior art was cited and considered by Patent Office.

3. Patentability — Anticipation — Combining references (§51.205)

There is no justification for combining and modifying prior art patents for anticipation since they do not suggest or teach how they can be combined and modified without utilizing teachings of patent in suit or without exercising invention; even if individually the component parts of patented device were known, they are combined in such a way as to create a synergistic effect.

4. Patentability — Evidence of — In general (§51.451)

Patentability — Evidence of — Commercial success — In general (§51.4551)

Patentability — Evidence of — Delay and failure of others to produce invention (§51.459)

Finding of nonobviousness is reinforced by plaintiff's substantial investment in purchas-

ing patent from inventor and in commercially exploiting it, its commercial success, long felt need for patented device and prior failures of those skilled in the art to solve problem, and defendants' failure to find more pertinent prior art than that cited by Patent Office, even after an exhaustive search.

5. Accounting — Increased or treble damages or profits (§11.35)

Costs — Attorney's fees (§25.5)

Infringer's lack of a written opinion of counsel and its continued infringement after notice of infringement do not make case an exceptional one where punitive damages under 35 U.S.C. 284 or attorney's fees under section 285 would be appropriate.

6. Patentability — Anticipation — In general (§51.201)

In order to have anticipation, prior object must be substantially identical to patented device; this occurs when they perform same function in same way and produce same result.

Particular patents—Wheel

3,329,468, Beith, Wheel Structure, claims 1 to 4, 7, 9, 10, 15 to 17, and 19 valid and infringed.

Action by E-T Industries, Inc., against Whittaker Corporation and Des Plaines Grand Automotive Speed Center, Inc., for patent and trademark infringement and unfair competition. Judgment for plaintiff in part and for defendants in part.

IRWIN C. ALTER, PHILLIP A. WEISS, RICHARD E. DICK, ALTER, WEISS, WHITESEL & LAFF, MELVIN E. PEARL, and KATTEN, MUCHIN, GITLES, ZAVIS, PEARL & GALLER, all of Chicago, Ill., for plaintiff.

RICHARD BUSHNELL and OLSON, TREXLER, WOLTERS, BUSHNELL & FOSSE, LTD., both of Chicago, Ill., and DONALD NIST, Los Angeles, Calif., for defendants.

McLAREN, District Judge.

Introduction

This matter arose as an action by E-T Industries, Inc. ("E-T") for infringement of U. S. Letters Patent No. 3,329,468 ("Beith"). The case was tried to the Court without a jury. The Court has examined all of the testimony and exhibits presented, and being fully advised in the premises, finds that the Beith patent is valid and that it is infringed by Ansen Automotive Engineering's ("Ansen") device. The Court further finds that plaintiff has not been guilty of unfair competition and that the defendants Ansen and Des Plaines Grand Automotive Speed Center, Inc. ("Grand") have not committed acts of trademark dilution or unfair competition.

The original complaint in this case, 70 C 2498, was filed by E-T in this district on October 8, 1970. An amended complaint was filed on December 31, 1970. Count 1 of the amended complaint alleges that Ansen and Grand are infringing the Beith patent. Counts 2 and 3 alleged that the defendants committed acts of unfair competition and trademark dilution in connection with E-T's "Unilug" trademark. Plaintiff sought both monetary and injunctive relief.[1] On January 28, 1971, Ansen filed a declaratory judgment action against E-T in the Northern District of California seeking to have the Beith patent declared invalid. It also stated in that action a second claim for relief based upon alleged acts by E-T of unfair competition. E-T denied the allegations in its answer and counterclaimed for patent infringement. That action was subsequently transferred to this district, given docket number 71 C 3133 and was consolidated with 70 C 2498.[2]

The following shall constitute the Court's findings of fact and conclusions of law pursuant to F. R. Civ. P. 52(a).

Findings of Fact

1. The plaintiff herein, E-T Industries, Inc., is a corporation of the State of California, with its principal place of business there, and is a wholly-owned subsidiary of Filter Dynamics International, Inc. (FDI), a corporation of the State of Delaware, having its principal place of business in Ohio.

E-T regularly does business in Illinois. E-T is principally engaged in the manufacture and sale of custom wheels for automobiles.

2. The defendants herein are Des Plaines Grand Automotive Speed Center, Inc., a corporation of the State of Illinois, having its principal place of business in Illinois, and Ansen Automotive Engineering, a corporation of the State of California, having its principal place of business in California, and a wholly owned subsidiary of Whittaker Corporation, with its principal place of business in Califor-

[1] Several amendments to the ad damnum clause have been allowed. E-T now seeks patent infringement damages of $2,810,101 plus interest and costs as compensatory damages as well as treble exemplary damages, through October 28, 1973. This does not limit E-T's ability to recover damages after that date in this suit.

[2] For clarity's sake, E-T will be referred to as plaintiff and Ansen and Grand will be referred to as defendants even though Ansen is the plaintiff in the declaratory judgment action.

nia.[2a] Ansen is engaged in the business of manufacturing and selling a line of specialty speed shop items for automobiles including custom wheels. Grand is a retail speed shop selling a variety of automotive products including custom wheels.

3. On July 4, 1967, U. S. Letters Patent No. 3,329,468 were duly and legally issued to Richard D. Beith. Plaintiff gained title to the patent with the full right to sue for past infringement.

4. On October 29, 1969 plaintiff gave Ansen actual notification of its accusation of infringement and warned that continued manufacture of the accused wheels would be considered a willful and wanton infringement. Defendants continued to manufacture and sell the accused infringing device after being notified. On October 8, 1970 plaintiff brought suit for patent infringement, unfair competition and trademark dilution against Ansen and Grand. Ansen had actual notice of the patent in suit in 1968.

The Patent in Suit

5. Wheels are commonly secured to automobiles by means of a plurality of bolts or lugs projecting from a brake drum or axle flange and cooperating lug nuts. There has been no standardization of the arrangement of such wheel lugs among the different auto makers.

6. The Beith patent teaches a universal wheel system for automobiles having three possible bolt diameter patterns—4-1/2", 4-3/4" and 5"[3]—by providing two different sets of adapters; one set of adapters has centered apertures and the other set of adapters has off-centered apertures. The patent teaches the concept of obtaining three different lug bolt patterns by reorienting one set of the adapters (which has the off-centered holes) to obtain two lug bolt diameters (4-1/2" and 5") and utilizing the set of adapters with centered apertures in substitution for the adapter with the off-centered apertures to obtain the middle position of 4-3/4".

7. Custom wheels for automobiles have been made since at least the early 1960's. Such wheels include cast aluminum or "mag" wheels of various designs, and chrome-plated steel wheels, and are intended to enhance the appearance of the vehicle.

As a general rule, such wheels were expensive and their costs made it prohibitive for a dealer in wheels to inventory a wide variety of such wheels. Also, the prohibitive costs deterred consumers from buying such wheels since they could not use them on more than one type of car. This is especially important since it appears that the typical buyer of these wheels frequently changed automobiles. One of the objectives of the Beith invention was to provide an acceptable universal wheel which incorporates means for accommodating the bolt circles of the three different popular automobiles, i.e., 4-1/2", 4-3/4" and 5".

8. There had been a long existing need for an adaptable wheel. Several unsuccessful attempts to fulfill this need included utilizing adapter plates providing both circularly spaced pre-drilled apertures to fit on lug bolt patterns of a specified diameter and lug bolt patterns arranged in a circle of another standard diameter, such as 5-1/2". This required the manufacturer to supply wheels having apertures suited for fitting onto lug bolts circularly arranged in a circle of 5-1/2" diameter. Rather than stocking three sizes of wheels, three sizes of adapter plates were stocked. Another unsuccessful solution included drilling a plurality of holes in the web of the wheels. The holes were drilled in a manner so that different groups of holes aligned with different lug bolt patterns; adapter plates were used for selecting the holes and reinforcing the web of the wheel. Where this solution used plates it needed different adapter plates for each bolt diameter that the wheel accommodated.

Other solutions included cutting radial or circumferential slots in the wheels to accommodate lug bolts arranged on circles of different radii. The customary way of fulfilling the need was to use adapter plates attached to the wheels.

9. The approach Beith decided to take was opposite to what was considered good engineering practice,[4] because the part of the wheel where the elongated slots were to be formed was structurally the weakest part of the wheel. Much concern had been shown for the strength of wheels in this critical area. His solution to the long-existing problem was an unexpected and unobvious acceptable solution since people with ordinary skill would have sought an acceptable solution by using large adapter plates.

10. Once the invention got out of the preliminary stage, it was a commercial success. Beith's original investment of $750 ultimately led to the $1,375,000 that he received upon selling out to FDI. E-T sales grew to $2,500,000 in 1970 when Beith sold out to FDI and thereafter E-T more than quadrupled its sales to $13,000,000 while the rest of the industry only grew at the rate of 50% per year. The universal system of the Beith wheel was the single most important factor in contributing to this commercial success.

[2a] After trial, the Whittaker Corp. was substituted as a defendant for Ansen. All references to Ansen shall be applicable to Whittaker.

[3] These three diameters are those used on most automobiles.

[4] Cf. U. S. Letters Patent No. 3,006,443 (Siler) at column 1, lines 50-60.

11. FDI, a sophisticated automotive aftermarket manufacturer, recognized the merits of the patented product and bought the patent from Beith. At the time of purchasing the company, new facilities were necessary and further extensive investment had to be made in tooling and other items to enable the true potential of the patented Beith wheel to be fulfilled. Thus, in addition to paying a premium price for the patent, FDI relied on the patent to the extent of their further heavy investment in E-T. This investment to date of trial was about $7,500,000.

The "Fujii" Wheel

12. The alleged activities of Ansen in relation to the defendant Exhibit A-1 wheel (hereinafter also referred to as the "Fujii wheel") do not meet the required evidentiary standards to be considered as invalidating the Beith patent. There was no documentary evidence which confirmed the existence of the Fujii wheel at the time alleged. The oral testimony of Johnson and Fujii, in addition to being uncorroborated by documents, is regarded by the Court as unreliable in view of many inconsistent and impeaching statements made under oath by both of them. The testimony and wheel do not fulfill the defendant's required burden of establishing clear and convincing invalidating evidence.

13. The Court is first concerned with the lack of evidence, other than testimonial, to establish the existence of the A-1 wheel at the time alleged. There were no written records. In addition, there was confusion as to when the wheel was tested.[5] Furthermore, at about the same time Ansen entered into a wheel development program with John T. Ostgaard, resulting in defendants' Exhibits A-34 as well as the plans submitted by Ostgaard. Yet, Ostgaard was never shown, or even told of, the A-1 wheel.

14. Ansen's witnesses may be personally biased in that they were either employees or former employees of Ansen. This tends to lessen their credibility.

15. The A-1 wheel was allegedly put on Fujii's car to test for stress and public reaction. However, no tests were conducted and no reports were made by Fujii, or sought by Ansen, as to the wheel's popularity or its ability to withstand stress. Further, Fujii's demonstration of the wheel consisted at the most of merely showing it to a few of his friends.

16. The adapters in the A-1 wheel were never reversed, nor is there sufficient evidence to establish that such a capability was contemplated. Not only were the washers made so they could not be reoriented but also Johnson admitted that Ansen never tried to reorient the washers until many years later.[6] The wheel was only tried on Fujii's car and not on any automobile with a different bolt diameter and could only fit a 4-3/4" pattern. Finally, only one wheel was made, it was never put up for sale, and it was abandoned for several years until hunted up after this action was commenced.

17. The alleged isolated use of the Fujii wheel was supposedly for testing the wheel for stress and determining the public reaction. In addition to the fact that testing of the alleged wheel was never completed, I find no evidence that could serve as a basis for concluding that the Fujii wheel, if it did exist at the time claimed, was anything other than a concealed or abandoned model that never was publicly disclosed. Accordingly, the Fujii wheel cannot be considered as invalidating prior art.

18. The A-1 wheel even if it did exist at the time alleged by the defendants required modification to accomplish the functions performed by the patent in question. Thus, it was not a reduction to practice, since it was not complete and was not capable of producing the results that are accomplished by the Beith patented wheel.

19. Even after allegedly having the A-1 wheel, the defendants' actions confirmed that such a wheel could not be considered a reduction to practice. Immediately after allegedly developing the A-1 wheel the defendants adopted a rear adapter plate system requiring three plates to obtain a universal wheel. It was not until five years after they allegedly had the A-1 wheel that the defendants began manufacturing the infringing Sprint II wheel.

[1] 20. The alleged isolated use of the Fujii wheel was an abandoned experimental step that was rejected in favor of an unsatisfactory adapter plate type solution by Johnson and as such it did not have any value for teaching those skilled in the art, nor was it a reduction to practice. Also, the subsequent abandonment by Ansen of the experiment confirms that the Beith invention was not obvious to Johnson who is skilled in the art. Therefore,

[5] Ansen's own witnesses testified that the alleged Fujii wheel was tested on a race track shortly before the race track was destroyed and that the race track was destroyed between 1966 and 1967 according to Solly Harris; between 1965 and 1966 according to Samuel Harris; in 1965 according to Tom Finney; and in 1967 according to Alfred H. Butler. Thus, it is quite conceivable that the test took place after Beith's invention. Also, Tom Finney, one of Ansen's employees at the time, testified, by deposition, that he had signed certain documents relating to the A-1 wheel. These were not produced by defendant.

[6] The Court was presented with only one insert for the A-1 wheel. In attempting to orient it, the Court discovered that the insert fit in only two of the five holes and could not be reoriented in one of them. Further, when reoriented, the washer created a 5-1/4" bolt diameter pattern, which fit no American-made car.

the Fujii wheel cannot be used to anticipate under 35 U.S.C. 102 or make a patent invalid for obviousness under 35 U.S.C. 103.

Prior Art

21. The most pertinent patents relied on by the defendants are demonstrative of the scope and content of the prior art. These were the Adair patent (No. 2,590,363, issued in March 1952); the Vachon et al. patent (No. 3,166,357, issued in January 1965); the Martin patent (No. 3,025,109 issued in March 1962); the Hunter patent (No. 3,207,557, issued in September 1965); the Laycock British patent (No. 859,193, issued in January 1961); the Italian patent (No. 579,294, issued in May 1958); and the Crowther patent (No. 1,940,675, issued in December 1933). All of these patents, except Crowther, were cited by the U. S. Patent Office during the prosecution of the Beith patent.

22. The Adair patent discloses a universal emergency wheel having elongated lug bolt apertures in the web. The apertures are radially elongated. Certain of the apertures are enlarged, i.e., the width thereof is much larger than the diameter of the lug bolt so that the lug bolts fit juxtaposed to one side of the apertures. There is no easy way of positively locating and centering the Adair wheel on the hub. Also, there is no adapter utilized or taught by Adair; this is noticeably lacking. Since there is no adapter, there can be no seat region for an adapter. The lug bolt apertures each have a separate chamfer at each end and a separate chamfer in the middle. The chamfers are to match the frusto-conical portion of the lug bolt nuts, but act to bend the lug bolts if the lug bolt nuts are tightened to the required torque. The inventor Adair testified that the sample wheels which were manufactured did not have chamfers. Accordingly, Adair could not possibly have looked on the chamfers shown in the patent as necessary in his wheel for location.

Furthermore, the Adair wheel does not provide a reliable wheel location, since it depends on the visual placement of the bolts on the enlarged opening and the friction created by the nut on the opening for positioning. The tests which defendant ran on the Adair wheel [7] disclosed that the wheel did not have a high level of reliability. Its rate of malfunction also was high. This supports plaintiffs' proposition and the inventor's conception that the wheel was only meant for emergency use and could not be relied upon as a permanent wheel.

23. The Vachon et al. patent also shows a universal wheel. There are two sets of holes drilled in the wheel—one is radially outside of the other so that using one set of holes, the wheel can be mounted on one make of brake drum while the other set of holes makes it mountable on another make of brake drum. The patent states that an annular plate is used to reinforce the wheel hub and also to select the group of holes to be used in mounting the wheel to the hub. It is to be noted that the holes are neither radially elongated nor are there any seats therearound or adapters for fitting into the seats; therefore, the Vachon et al. wheel is basically a different structure.

24. The Martin patent teaches an annular adapter plate that fits between the wheel and the hub for use in mounting wheels having one set of apertures therein to hubs having different lug bolt patterns. The Martin adapter plate uses a series of pivotable lugs to attach the plate to the hub. First, the lugs are mounted directly onto the hub using a hole in each lug to put a screw through it. The lug has another threaded opening; a screw goes through the lug onto a big adapter plate. The plate has five further tap holes on it. These holes match the holes of the wheel. The wheel is mounted to the holes, using a threaded member. This fails to teach enlarged holes, seat regions thereabout, or adapters in the seat regions, and it does not teach anything anticipating or making Beith's invention obvious.

25. The Hunter patent does not teach a universal wheel. It teaches, instead, a system for aligning wheels. The assumption of the Hunter patent is that the lug bolts are not concentric with the wheel bearing. Therefore, the inventor sought to avoid using the lug bolts as a reference point for mounting the wheel. The operation of Hunter first begins when the car is jacked up and a concentric spacer is fitted over the hub. Then, the wheel is rotated to check for runout, and if the wheel is not concentric, the eccentricity is measured. An eccentric washer is put over the hub. The washer is used to diminish the eccentricity on the wheel. Thus, the Hunter patent does not teach lug bolt apertures of a size for receiving therethrough lug bolts in different circle patterns, seats about the lug bolt apertures or adapters fitting in the seat.

26. The Laycock British patent does not relate to the universal wheel or even to a wheel. It relates to a mounting plate for use on wheel balancing machines. The mounting plate can adapt to wheels that are made for any of the well known lug bolt circles. Figure 1 of the Laycock shows that the plates have radially elongated apertures. Slidable inserts are mounted in the apertures. Each of the inserts has a pair of threaded holes, one at the inside and one at the outside of the inserts. The insert is locked into position with a set screw at the center of the insert. There are bolt circles marked on the plate. The inserts are moved to place the inner hole or the outer holes at the desired bolt circle and studs are threaded into the desired holes. The wheels are mounted to

[7] See note 11, infra.

the studs. It must be noted that to adjust the inserts of Laycock requires visual matching of the desired threaded hole of the insert with the marked circles. By comparison, in Beith the adjustment of the lug bolt diameter is automatic and is obtained merely by placing the adapter into the seat around the lug bolt aperture of the wheel.

27. There is nothing in the Italian patent even faintly hinting at a universal wheel concept. The patent is concerned with a lightweight wheel having cooling apertures therein for enabling cooling air to reach the brakes. The lug bolt apertures have hard metallic linings to protect the light metal wheels. With linings in the apertures, there is no possibility of receiving lug bolts arranged in more than one pattern. Thus, there are no lug bolt apertures to receive lug bolts arranged in different circle patterns and no adapters for selecting the desired lug bolt patterns.

[2] 28. The Crowther patent was not cited by the United States Patent Office; however, it is far less important or pertinent than those patents that were cited by the Patent Office. Crowther is not concerned with a universal wheel; rather, it is concerned merely with detachably mounting wheels on hubs. Crowther provides a bolt nut having a convex split collar which cooperates with the concave contour of the seat around the lug bolt aperture to overcome any eccentricity caused by the attachment of the wheel to the hub. Crowther's collar is neither designed to, nor does it perform the function of the Beith adapter. Therefore, it is neither the adapter nor the equivalent of the adapter. Also, Crowther fails to teach lug bolt apertures of a size to accommodate lug bolts arranged in different lug bolt circle patterns. The statutory presumption of validity of the Beith patent is strengthened since the most pertinent prior art relied upon by the defendants consists of patents cited and considered by the Patent Office plus others that were less pertinent than what was considered in the prosecution of the Beith patent in the Patent Office.

30. After studying all of the prior art in the record, in addition to the aforementioned patents, the Court finds that there has been shown no prior art of record that includes any patents or written publications which overcome the statutory presumption of patent validity by clearly and convincingly proving that all the elements of the Beith patent were ever used or taught as claimed in the Beith patent prior to Beith's invention.

[3] 31. Nowhere in the prior art shown is there any prior patent or any combination of prior art patents that would enable one skilled in the art to construct the Beith invention. Further, there is no justification for combining and modifying the patents for anticipation as the defendants assert. The prior art patents do not suggest or teach how they can be combined and modified in one particular way as Beith taught without utilizing the teachings of the Beith patent or without exercising invention. It should also be noted that there was no pattern in the development of the art which led to Beith's invention. In fact, the trend in development was toward the use of adapter plates rather than working with the lug bolt apertures themselves. Thus, even if individually the component parts of Beith were known, they are combined in such a way as to create a synergistic effect.[8]

32. Among the differences between the prior art and the claimed invention is that none of the wheels of the prior art show the combination of elongated lug apertures in a central wheel mounting portion that has rabbeted portions formed around the lug apertures for seating adapters, with the adapters having apertures formed therein that make the wheel universal when adapters are seated in different positions. For example, the adapters of Claims 1, 2, 3, 4, 7, 9 and 10 are, among other things, defined as being capable of being seated in at least two orientations with the apertures and the adapters defining a lug bolt circle of selected radii in each of the two orientations.

33. Among the differences between the prior art and the claimed invention is that none of the prior art references taught or made obvious a non-circular adapter and seat system in the central mounting portion of a wheel whereby the adapters can be seated to produce a universal wheel by selecting different ones of a plurality of possible lug bolt circle patterns with the apertures of the adapters. (See Claims 3, 10, 15, 16, 17 and 19.) Where the adapter system described in the patent is circular, the adapters must be aligned by eye and they move while installing the wheel. When the adapters and seats are non-circular and they are fitted together, they automatically and positively locate the wheel for installation and mounting for each of the desired multiple lug bolt circle patterns.

34. The level of ordinary skill in the automotive wheel field is such that those skilled in the art would not have gone in the direction that Beith went at the time of his invention.[9] Beith removed material from what is considered a critical portion of the wheel—the central mounting portion or web near the central hub opening. Thus, Beith went in a direction opposite to the direction that was being taken

[8] See Blaw-Knox Co. v. I. D. Lain Co., 230 F.2d 373, 108 USPQ 356 (7th Cir. 1956).

[9] This is brought home by the fact that Ansen rejected the idea of elongated apertures and opted for a plate system at around the same time as Beith was developing his wheel.

by those having ordinary skill in the art. By doing so, the public was provided with a universal wheel that was smart looking, in that the elongated slots were directly in the web of the wheel itself and small adapter means were used to obtain universality. Such wheels could be manufactured and operated easily while still having a pleasing appearance as well as reliably locating and attaching the wheel to the brake drum.

[4] 35. This Court finds that the patented wheel disclosed in the Beith patent in suit is a basic invention which is not anticipated by any of the prior art cited by defendants. In addition, as required by 35 U.S.C. 103, this Court has given full and careful consideration to the scope and content of the prior art, with respect to universal wheels, and therefore, to the differences between the prior art and the claimed subject matter of the patent, and to the level of ordinary skill in the art, with emphasis on the actual performance of men of at least ordinary skill. Against this background, the Court finds that the claimed subject matter would not have been obvious to a man of ordinary skill in the art at the time the invention was made, in view of the prior art asserted by defendants, taken either singly or in combination. Moreover, the finding by this Court of non-obviousness is reinforced by the objective evidence of patentability present in this case, including the recognition of great merit paid to the invention by Filter Dynamics International, Inc. as shown by their investment in the patent, and by the commercial success of the patented invention, the long-felt need for an acceptable universal wheel, the prior failures on the part of workers (such as Johnson) of at least ordinary skill in the art, and failure on the part of the defendants to find more pertinent prior art than that which was cited in the United States Patent Office, even after an exhaustive search for such prior art.

Infringement

36. The defendants Ansen and Grand infringed and are infringing the Beith patent by manufacuturing and/or selling the Ansen Sprint II wheel. The Sprint II infringes Claims 1, 2, 3, 4, 7, 9, 10, 15, 16, 17 and 19 of Beith.

37. Ansen's front washers and the rear inserts respond to the term washers as used in some of the claims of the Beith patent.[10] Therefore, the Sprint II wheel responds to the Beith claims regardless of whether such response is attributed to the front washers or the rear inserts, or both used as a set, since they perform both a locating and clamping function. Despite the fact that the front washers of the Sprint II are circular, rather than oval-shaped, the offset washer can be used only in two positions. Any attempt to utilize them in a position other than the 4-1/2" or 5" diameter creates a situation in which the lug nut cannot engage the lug bolt, because the wheel blocks the opening. Thus, the front washer does provide a positive locating function, when combined with the non-circular aperture.

Defendant's contention that the wheel with the 4-3/4" diameter (or centrally drilled) inserts does not infringe is without merit in that the wheel is adaptable for use on automobiles with varying radii and the adapters are sold as sets to accomplish universality.

38. This Court finds that the Ansen Sprint II wheels have adapter means that are snugly seated in the seat regions about the lug apertures. This finding is supported by tests of the expert Walter Nass made on a randomly sampled group of Ansen Sprint II wheels. The tests confirmed the snug dimensional relationship of the washers and inserts with their respective seats. Whether used alone or together, the washers or inserts more than meet the requirements of concentricity and runout as established by the industry. Therefore, the Sprint II wheel responds to the Beith claims regardless of whether such response is attributed to the front or the rear of the wheel.

39. Both the washers and the rear inserts of the Sprint II wheel are in covering relation with the lug apertures. Therefore, the Sprint II wheel responds to the Beith claims regardless of whether such response is attributed to the front washers or the rear inserts.

40. The Sprint II wheel copies and infringes the Beith patent not only in its means for providing universality, but also copies nonfunctional features, such as the style and appearance of the E-T deep-dish, highly polished, die cast, universal wheel.

41. Defendants have actively induced others to infringe plaintiff's patent by: (a) selling the accused wheels with specific instructions on how to install same to form the infringing combination; (b) advertising and otherwise promoting the use of the accused wheels in the infringing combination; and (c) assisting, encouraging and abetting others in the resale of the accused wheels. Ansen's and Grand's acts of distributing the advertising instructions on how to use the adapter kits with the Sprint II wheel are acts of inducing the infringement of the Beith patent.

42. Ansen has sold to Grand, a distributor for Ansen, about $100,000 worth of wheels. Grand was a distributor of Ansen when the suit was filed and is still a distributor of Ansen

[10] The fact that the rear insert is thicker than the E-T insert is only a matter of construction and does not go to the function or purpose to which the washer is used. It operates the same way and has the same shape as the E-T washer and can be deemed a "washer" for purposes of this case.

and, therefore, continues to infringe and induce the infringement of the Beith patent.

[5] 43. The Court does not believe that defendant's lack of a written opinion of counsel, continued manufacture of the wheels after notice of infringement, or any other facts herein, make this an exceptional case where punitive damages under 35 U.S.C. § 284 or attorney's fees under 35 U.S.C. 285 would be appropriate."

Ansen's Unfair Competition Claim

44. No evidence was introduced in support of Ansen's claim of unfair competition against E-T.

E-T's Claim of Unfair Competition and Trademark Dilution

45. The sole evidence with respect to these claims consisted of the testimony of Denise Blasingame, an employee of E-T's counsel. She testified that her employer sent her to Grand to purchase a set of Ansen wheels. During the course of her transaction, an employee of Grand, "Ken," told her that the product was a "Unilug." However, he did not say it was an E-T wheel and she was aware it was an Ansen wheel. Ken is no longer employed by Grand. The Court does not believe that this one isolated incident, if it in fact occurred as described, is sufficient evidence to warrant injunctive or monetary relief for unfair competition and trademark dilution.

Conclusions of Law

1. The Court has jurisdiction over the parties and over the subject matter of this suit.

2. Venue is proper in this district.

3. The plaintiff, E-T Industries, Inc., is the owner of United States Letters Patent No. 3,329,468 and all rights thereunder, including the rights to sue and to recover for past infringement.

4. Plaintiff, E-T Industries, Inc., has maintained its burden of proving by a preponderance of evidence that the defendants infringed U. S. Patent No. 3,329,468. Defendants Ansen and Grand have not maintained the burden of clearly and convincingly overcoming the presumption of validity and proving the invalidity of the patent, as required by Title 35 U.S.C. § 282; nor have Ansen and Grand proven that they avoid infringement of U. S. Patent No. 3,329,468. See Reese v. Elkhart Welding & Boiler Works, Inc., 447 F.2d 517, 526, 171 USPQ 129, 135-136 (7th Cir. 1971).

5. Defendant sought to invalidate the Beith patent on the grounds that Ansen's "Fujii" wheel constituted prior art in the public sphere as contemplated in 35 U.S.C. § 102(a). This contention is rejected for several reasons. First, Ansen did not sufficiently establish that the A-1 wheel, assuming arguendo that it was anticipatory, was in the public domain one year prior to the date of Beith's invention. This is highlighted by the conflicting testimony of Ansen's employees as to dates and exactly what was done to the wheel. Also, the lack of documentation and the casual manner in which the wheel was handled detract from the testimony's credibility and weight.

Second, the Court believes that Ansen's use of the A-1 wheel, assuming its existence at the time claimed, was merely an abandoned experiment. No records were kept or formal tests made. The wheel was out of Ansen's control for several years and was kept in a storage room. It was not shown to Ostergaard, who was aiding Ansen in its wheel development program. Ansen never pursued the manufacture of the wheel nor did it sell or attempt to sell even one wheel, and in fact abandoned it in favor of other types of wheels. See, e.g., Illinois Tool Works, Inc. v. Continental Can Co., 273 F.Supp. 94, 154 USPQ 401 (N.D. Ill. 1967), aff'd, 397 F.2d 517, 158 USPQ 437 (7th Cir. 1968).

[6] Third, the Court believes that the evidence is not sufficient to show that the Fujii wheel "anticipated" Beith's invention. In order to have anticipation, it is necessary that the prior object be "substantially identical" to the patented device. This occurs when they perform the same function in the same way and produce the same result. Id. at 105, 154 USPQ at 410-411. In the instant case, no attempt was made to perform the function of universality of the wheel, nor is the evidence sufficient to show that this could be done. This being so, the Ansen wheel cannot be deemed to be anticipatory under § 102.

6. The Court, after examining the entire record, finds that the E-T wheel was not obvious in light of the prior art under the tests enunciated in Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966).

7. U. S. Letters Patent 3,329,468 entitled "Wheel Structure" as to Claims 1, 2, 3, 4, 7, 9, 10, 15, 16, 17 and 19 is in all respects valid and subsisting in law.

8. U. S. Letters Patent 3,329,468 as to Claims 1, 2, 3, 4, 7, 9, 10, 15, 16, 17 and 19 is

[11] While the Court does not believe that attorneys' fees are appropriate in this case, mention should be made of certain activities of Ansen and its counsel. First, defendant at trial introduced evidence of certain tests conducted on the Adair wheels. Plaintiff's counsel was not given notice of these tests. The Court believes that this was contrary to the understanding reached with the Court that all tests would be done under joint auspices. At trial, defendant attempted to use wheel drums other than those previously agreed to. Defendant has attempted to introduce evidence that the Ansen wheel had been patented, despite the fact that this had not been divulged to plaintiff.

infringed by the defendants by their manufacture and sale of the accused wheels.

9. Defendants have infringed the U. S. Letters Patent 3,329,468 as to Claims 1, 2, 3, 4, 7, 9, 10, 15, 16, 17 and 19.

10. Plaintiff is entitled to an injunction restraining defendants against further infringement of U. S. Letters Patent 3,329,468 as to Claims 1, 2, 3, 4, 7, 9, 10, 15, 16, 17 and 19.

11. The Court believes that further evidence should be taken on the issues of damages. This evidence should include the terms of the license agreement proposed by E-T and rejected by Ansen, the profits Ansen made on the wheels it sold, and further evidence as to E-T's lost sales, with particular emphasis on the profitability factors E-T used in determining its lost profits. Also an accounting will be made to determine damages to date. After further evidence is taken, the Court will better be able to evaluate the measure of damages it should use.

12. The Court holds that this is not an exceptional case requiring punitive damages under 35 U.S.C. § 284 or attorneys' fees under 35 U.S.C. § 285.

13. E-T's claims for trademark dilution and unfair competition are not supported by the evidence and must be and hereby are dismissed. Each party shall bear its own costs on these counts.

14. Ansen's claim of unfair competition against E-T is dismissed. No evidence at all was introduced to support this count. Costs will be awarded to E-T.

15. Any finding of fact entered herein which may be construed in whole or in part as a conclusion of law shall be so deemed and treated as if set forth as a conclusion of law herein and any conclusion of law entered herein which may be construed in whole or in part as a finding of fact shall be so deemed and treated.

United States Court of Appeals

For the Seventh Circuit

Chicago, Illinois 60604

March 4, 1976

Before

Hon. JOHN PAUL STEVENS, Circuit Justice*

Hon. LATHAM CASTLE, Sr. Circuit Judge

Hon. LUTHER M. SWYGERT, Circuit Judge

E-T INDUSTRIES, INC.,
Plaintiff-Defendant-Appellee,

No. 74-1924 vs.

WHITTAKER CORP. and DES PLAINES GRAND AUTOMOTIVE SPEED CENTER, INC.,
Defendants-Plaintiffs-Appellants.

Appeal from the United States District Court for the Northern District of Illinois, Eastern Divsr.

(70 C 2498 & 71 C 3133)

On consideration of the petition for rehearing en banc filed in the above-entitled cause, no judge in active service having requested a vote thereon, nor any judge having voted to grant the petition, and all of the members of the panel having voted to deny a rehearing,

IT IS ORDERED that the petition for rehearing en banc in the above-entitled cause be, and the same is hereby, DENIED.

*Mr. Justice Stevens participated initially as Circuit Judge, and on and after December 19, 1975 as Circuit Justice.

FPI:81—6-7-73-FSW 684

Supreme Court of the United States

Sakraida v. Ag Pro, Inc.

No. 75-110 Decided Apr. 20, 1976

PATENTS

1. Patentability — Invention — In general (§51.501)

Constitution requires that there be some "invention" to be entitled to patent protection; there is absence of that degree of skill and ingenuity that constitutes essential elements of every invention unless more skill and ingenuity were required than were possessed by ordinary mechanic acquainted with business.

2. Patentability — Invention — Law or fact question (§51.507)

Ultimate test of patent validity is one of law, but resolution of obviousness issue necessarily entails basic factual inquiries.

3. Patentability — Aggregation or combination — Of old elements (§51.159)

Courts should scrutinize patent claims for combinations of old elements with care proportioned to difficulty and improbability of finding invention in assembly of old elements; patent for combination that only unites old elements with no change in their respective functions withdraws what is already known into field of its monopoly and diminishes resources available to skillful men.

4. Patentability — Aggregation or combination — Of old elements (§51.159)

Patentability — Aggregation or combination — Specific cases (§51.163)

Combination of old elements that produces abrupt release of water directly from storage tanks or pools to sloping barn floor to wash away animal wastes is not synergistic, that is, resulting in effect greater than sum of several effects taken separately; arrangement of old elements with each performing same function it had been known to perform, although perhaps producing more striking result than in previous combinations, is not patentable: assembly of old elements that delivers water directly rather than through pipes or hoses to barn floor is work of skillful mechanic, not inventor; exploiting principle of gravity adds nothing to sum of useful knowledge where there is no change in respective functions of combination's elements.

5. Patentability — Aggregation or combination — Of old elements (§51.159)

Patentability — Evidence of — Commercial success — In general (§51.4551)

Patentability — Evidence of — Economy, efficiency and simplicity (§51.461)

Desirable benefits of combination of old elements, which was great convenience, produced desired result in cheaper and faster way and enjoyed commercial success, but that did not produce new or different function within validity test for combination patents, do not make patentability, without invention.

Particular patents — Dairy Establishment

3,223,070, Gribble and Bennett, Dairy Establishment, claims 1 and 3 invalid.

On writ of certiorari to Court of Appeals for the Fifth Circuit; 185 USPQ 642.

Action by Ag Pro, Inc., against Bernard A. Sakraida for patent infringement. On writ of certiorari to review judgment for plaintiff. Reversed.

See also 168 USPQ 481, 177 USPQ 106, 179 USPQ 385, 187 USPQ 480.

James F. Hulse and Stephen B. Tatem, Jr., both of El Paso, Tex., and R. Douglas Lyon, and Lyon & Lyon, both of Los Angeles, Calif. (Scott, Hulse, Marshall & Feuille, El Paso, Tex., of counsel) for petitioner.

J. Pierre Kolisch, Portland, Ore. (John W. Stuart, Portland, Ore., of counsel) for respondent.

Helen W. Nies, Donald R. Dunner, Herbert H. Mintz, and David N. Webster, all of Washington, D.C., for The Bar Association of the District of Columbia, amicus curiae.

Mary Helen Sears, and Irons & Sears, both of Washington, D.C., for The Texas Farmers Union, amicus curiae.

Mr. Justice Brennan delivered the opinion of the Court.

Respondent Ag Pro, Inc., filed this action against petitioner Sakraida on October 8, 1968, in the District Court for the Western District of Texas for infringement of United States Letters Patent 3,223,070, entitled "Dairy Establishment," covering a water

flush system to remove cow manure from the floor of a dairy barn. The patent was issued December 14, 1965, to Gribble and Bennett, who later assigned it to respondent.

The District Court's initial grant of summary judgment for petitioner was reversed by the Court of Appeals for the Fifth Circuit. 437 F.2d 99, 168 USPQ 481 (1971). After a trial on remand, the District Court again entered a judgment for petitioner. The District Court held that the patent "does not constitute invention, is not patentable, and is not a valid patent, it being a combination patent, all of the elements of which are old in the dairy business, long prior to 1963, and the combination of them as described in the said patent being neither new nor meeting the test of non-obviousness." The Court of Appeals again reversed and held the patent valid. 474 F.2d 167, 177 USPQ 106 (1973). On rehearing, the court remanded "with directions to enter a judgment holding the patent valid, subject, however, to * * * consideration of a motion under Fed. Rule Civ. Proc. 60(b)(2), to be filed in the District Court by the [petitioner] Sakraida on the issue of patent validity based on newly discovered evidence." 481 F.2d 668, 669, 179 USPQ 385, 386 (1973). The District Court granted the motion and ordered a new trial. The Court of Appeals again reversed, holding that the grant of the motion was error, because "the record on the motion establishes that [petitioner] failed to exercise due diligence to discover the new evidence prior to entry of the former judgment." 512 F.2d 141, 142, 185 USPQ 642, 643 (1975). The Court of Appeals further held that "[o]ur prior determination of patent validity is reaffirmed." Id., at 144, 185 USPQ at 644. We granted certiorari, 423 U.S. 891, 187 USPQ 480 (1975). We hold that the Court of Appeals erred in holding the patent valid and also in reaffirming its determination of patent validity. We therefore reverse and direct the reinstatement of the District Court's judgment for petitioner, and thus we have no occasion to decide whether the Court of Appeals properly found that petitioner had not established a case for a new trial under Rule 60(b)(2).

Systems using water to clean animal wastes from barn floors have been familiar on dairy farms since ancient times.[1] The District Court found, and respondent concedes, that none of the 13 elements of the Dairy Establishment combination is new,[2]

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[1] Among the labors of Hercules is the following:

"Hercules was next sent to Augeas King of Elis, who had immense droves of cattle. The stables usually occupied by these animals were in an incredibly filthy state, as they had not been cleaned in years; and now Hercules was given the task to remove the accumulated filth, and make a complete purification of the premises.

"Close by these stables rushed a torrent, or rather a river, the Alpheus. Hercules, with one glance, saw the use he could make of this rushing stream, which he dammed and turned aside from its course, so that the waters passed directly through the stables, carrying away all impurities, and finally washing them perfectly clean." Guerber, Myths of Greece and Rome 221 (1893).

[2] The District Court found as follows reflecting Claims 1 and 3, the only claims involved in the case:

"1. I find that the 'dairy establishment' as described in United States Letters Patent 3,233,070 is composed of 13 separate items, as follows:

"(a) '* * * a smooth, evenly contoured, paved surface forming a floor providing a walking surface * * *.'

"(b) '* * * drain means for draining wash water from such floor opening to the top of the floor.'

"(c) '* * * said smooth, evenly contoured surface which forms such floor sloping toward said drain * * *.'

"(d) '* * * multiple rest areas with individual stalls for each cow and with each of said stalls having a bottom which is also a smooth pavement * * *.'

"(e) '* * * which is disposed at an elevation above the paved surface forming the floor * * *.'

"(f) '* * * said stalls being dimensioned so that a cow can comfortably stand or lie in the stall, but offal from the cow falls outside the stall bottom and onto the floor providing the walking surface in the barn * * *.'

"(g) '* * * said barn further including defined feeding areas having feeding troughs * * *.'

"(h) '* * * a cow-holding area.'

"(i) '* * * a milking area.'

"(j) '* * * a transfer area all bottomed with the walking surface forming said floor in the barn * * *.'

"(k) '* * * and floor washing means for washing the floor providing the walking surface in the barn where said floor bottom, said feeding, holding, milking and transfer areas operable to send wash water flowing over the floor with such water washing any cow offal thereon into the said drain means, said floor washing means including means located over a region of said floor which is uphill from said drain means constructed to collect water as a pool above said floor and operable after such collection of water as a pool to dispense the water as a sheet of water over said floor.'

"(l) A tank on a mounting, so that it can be tilted, and the water poured out to cascade on the floor to form a sheet.

"(m) A floor-washing means comprising a dam for damming or collecting water as a pool directly on the floor, which such dam abruptly

and many of those elements, including storage of the water in tanks or pools, appear in at least six prior patented systems.[3] The prior art involved spot delivery of water from tanks or pools to the barn floor by means of high pressure hoses or pipes. That system required supplemental hand labor, using tractor blades, shovels, and brooms, and cleaning by these methods took several hours. The only claimed inventive feature of the Dairy Establishment combination of old elements is the provision for abrupt release of the water from the tanks or pools directly onto the barn floor, which causes the flow of a sheet of water that washes all animal waste into drains within minutes and requires no supplemental hand labor. As an expert witness for respondent testified concerning the effect of Dairy Establishment's combination, "water at the bottom has more friction than this water at the top and it keeps moving ahead and as this water keeps moving ahead we get a rolling action of this water which produced the cleaning action * * *. You do not get this in a hose * * *. [U]nless that water is continuously directed toward the cleaning area the cleaning action almost ceases instantaneously * * * "[4]

The District Court found that "[n]either the tank which holds the water, nor the means of releasing the water quickly is new, but embraces tanks and doors which have long been known," and further that "their use in this connection is one that is obvious, and the patent in that respect is lacking in novelty. The patent does not meet the non-obvious requirements of the law." The District Court therefore held that Dairy Establishment "may be relevant to commercial success, but not to invention," because the combination "was reasonably obvious to one with ordinary skill in the art." Moreover, even if the combination filled a "long-felt want and * * * has enjoyed commercial success, those matters, without invention, will not make patentability." Finally, the District Court concluded "that to those skilled in the art, the use of the old elements in combination was not an invention by the obvious-nonobvious standard. Even though the dairy barn in question attains the posture of a successful venture, more than that is needed for invention."[5] The Court of Appeals disagreed with the District Court's conclusion on the crucial issue of obviousness.

[1] It has long been clear that the Constitution requires that there be some "invention" to be entitled to patent protection. Dann v. Johnston, U.S. , 189 USPQ 257 (1976). As we explained in Hotchkiss v. Greenwood, 11 How. 248, 267 (1851): "[U]nless more ingenuity and skill * * * were required * * * than were possessed by an ordinary mechanic acquainted with the business, there was an absence of that degree of skill and ingenuity which constitute essential elements of every

[3] openable to send water cascading as a sheet over the floor towards the drain.

"2. I further find that each of the items above-described were not new, but had been used in the dairy business prior to the time the application for the said Gribble patent, made the subject of this action, had been filed in the Patent Office of the United States on November 5, 1963."

The District Court found "that many of the items going to make up Plaintiff's claim for a patent were disclosed in prior patents, known respectively as the McCornack patent, the Holz patent, the Ingraham patent, the Kreutzer patent, the Bogert patent, and the Luks patent; and that the statements of the Examiner's opinions refusing to issue a patent are true as all items there stated to be covered in prior patents or publications."

[4] This witness testified that

"water has energy and it can be used in many different ways. In a hose the energy is used by impact, under pressure, external force that is applied to this pressure — to this water, whereas the water that comes down as a sheet or wall of water has built in energy because of its elevation and as this water is released it does the same thing water does in a flooded stream. As this water — I will try to make this clear, and I hope I can, on the surface of this pavement there are these piles of manure droppings. This pavement is smooth and this water moves down over this manure. The water at the bottom has more friction than this water on the top and it keeps moving ahead and as this water keeps moving ahead we get a rolling action of this water which produced the cleaning action. That is the key to this method of cleaning. You do not get this in a hose. You do not get it in a gutter as has been used in the past. I might just mention a little bit about the hose. This squirting water on a floor — probably have done it on our own sidewalks or walkways, and I just mention that, that unless that water is continuously directed towards the cleaning area the cleaning action almost ceases instantaneously. Now the movie that was shown earlier very dramatically illustrated that point. The cleaning action — as soon as the hoses moved to one side the cleaning action ceased here and that is why this hose was moved back and forth, to drive this stuff on down to where we want it."

[5] The court also "conclude[d] that while the combination of old elements may have performed a useful function, it added nothing to the nature and quality of dairy barns theretofore used."

invention. In other words, the improvement is the work of the skillful mechanic, not that of the inventor." This standard was enacted in 1952 by Congress in 35 U.S.C. §103 "as a codification of judicial precedents * * * with Congressional directions that inquiries into the obviousness of the subject matter sought to be patented are a prerequisite to patentability." Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 466 (1966). Section 103 provides:

> "A patent may not be obtained though the invention is not identically disclosed or described, as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made."

[2] The ultimate test of patent validity is one of law. A&P Tea Co. v. Supermarket Corp., 340 U.S. 147, 155, 87 USPQ 303, 307 (1950), but resolution of the obviousness issue necessarily entails several basic factual inquiries. Graham v. John Deere Co., supra, at 17, 148 USPQ at 466-467.

> "Under §103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved." Ibid.

The Court of Appeals concluded that "the facts presented at trial clearly do not support [the District Court's] finding of obviousness under the three-pronged Graham test * * *." 474 F.2d, at 172, 177 USPQ at 110. We disagree and hold that the Court of Appeals erroneously set aside the District Court's findings.

[3] The scope of the prior art was shown by prior patents, prior art publications, affidavits of people having knowledge of prior flush systems analogous to respondent's, and the testimony of a dairy operator with 22 years' experience who described flush systems he had seen on visits to dairy farms throughout the country. Our independent examination of that evidence persuades us of its sufficiency to support the District Court's finding "as a fact that each and all of the component parts of this patent * * * were old and well-known throughout the dairy industry long prior to the date of the filing of the application for the Gribble patent * * * [w]hat Mr. Gribble referred to * * * as the essence of the patent, to wit, the manure flush system, was old, various means for flushing manure from dairy barns having been used long before the filing of the application * * *."[4] Indeed, respondent admitted at trial "that the patent is made up of a combination of old elements" and "that all elements are individually old * * *." Accordingly, the District Court properly followed our admonition in A&P Tea Co. v. Supermarket Corp., supra, at 152, 87 USPQ at 305-306: "Courts should scrutinize combination patent claims with a care proportioned to the difficulty and improbability of finding invention in an assembly of old elements * * *. A patent for a combination which only unites old elements with no change in their respective functions * * * obviously withdraws what already is known into the field of its monopoly and diminishes the resources available to skillful men * * *."

The Court of Appeals recognized that the patent combined old elements for applying water to a conventional sloped floor in a dairy barn equipped with drains at the bottom of the slope and that the purpose of the storage tank — to accumulate a large volume of water capable of being released in a cascade or surge — was equally conventional. 474 F.2d, at 169, 177 USPQ at 108. It concluded, however, that the element lacking in the prior art was any evidence of an arrangement of the old elements to effect the abrupt release of a flow of water to wash animal wastes from the floor of a dairy barn. Ibid. Therefore, "although the [respondent's] flush system does not embrace a complicated technical improvement, it does achieve a synergistic result through a novel combination." Id., at 173, 177 USPQ at 111.

[4] We cannot agree that the combination of these old elements to produce an

[4] The court stated:

"I therefore find as a fact that each and all of the component parts of this patent as listed under the applicant's claims set out in said patent, were old and well-known throughout the dairy industry long prior to the date of the filing of the application for the Gribble patent. I further find that what Mr. Gribble referred to in his deposition as the essence of the patent, to wit, the manure flush system, was old, various means for flushing manure from the dairy barns having been used long before the filing of the application for the Gribble patent, the general idea in that connection being a hard surfaced sloping floor onto which the cows' offal was dropped, and some system of introducing water in sufficient quantities and force onto said floor to wash the offal therefrom, with a ditch or drain to carry the offal so washed away from the barn, either into a manure container or otherwise."

abrupt release of water directly on the barn floor from storage tanks or pools can properly be characterized as synergistic, that is, "result[ing] in an effect greater than the sum of the several effects taken separately." Anderson's-Black Rock v. Pavement Co., 396 U.S. 57, 61, 163 USPQ 673, 674 (1960). Rather, this patent simply arranges old elements with each performing the same function it had been known to perform, although perhaps producing a more striking result than in previous combinations. Such combinations are not patentable under standards appropriate for a combination patent. A&P Tea Co. v. Supermarket, Equipment Corp., supra; Anderson's-Black Rock v. Pavement Co., supra. Under those authorities this assembly of old elements that delivers water directly rather than through pipes or hoses to the barn floor falls under the head of "the work of the skillful mechanic, not that of the inventor." Hotchkiss v. Greenwood, supra, at 267. Exploitation of the principle of gravity adds nothing to the sum of useful knowledge where there is no change in the respective functions of the elements of the combination; this particular use of the assembly of old elements would be obvious to any person skilled in the art of mechanical application. See Dann v. Johnston, slip op., at 11, 189 USPQ at 261-262.

[5] Though doubtless a matter of great convenience, producing a desired result in a cheaper and faster way, and enjoying commercial success, Dairy Establishment "did not produce a 'new or different function' * * * within the test of validity of combination patents." Anderson's-Black Rock v. Pavement Co., supra, at 60, 163 USPQ at 674. These desirable benefits "without invention will not make patentability." A&P Tea Co. v. Supermarket, Equipment Corp., supra, at 153, 87 USPQ at 306. See Dann v. Johnston, supra, at — n.4, 189 USPQ at 261.

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Court of Appeals, Second Circuit

The Robert Stigwood Group Limited, et al.
v. O'Reilly, et al.
Track Music, Inc., et al.
v. Contemporary Mission, Inc., et al.

Nos. 75-7076, 75-7077 and 75-7091
Decided Jan. 19, 1976

COPYRIGHTS

1. Accounting — Damages — Copyrights (§11.253)

Infringement — In general (§24.201)

Federal district court erred in taking "baseline figure of 50" as number of unauthorized performances of copyrighted work simply because figure had been conceded by accused infringers.

2. Infringement — In general (§24.201)

Rights embraced in copyright (§24.50)

Ephemeral public performance on stage is not like film negative that can be reproduced; Section 1(d) provides that exclusive right to make "any transcription or record" belongs to copyright owner.

3. Infringement — In general (§24.201)

17 U.S.C. 101(e) makes unauthorized manufacture of tape recordings containing renditions of copyrighted musical compositions infringement of musical copyright.

4. Accounting — Damages — Copyrights (§11.253)

Infringement — In general (§24.201)

Only when type of copyright infringement permits further reproduction abroad is exploitation abroad subject of constructive trust; federal district court properly excluded unauthorized Canadian performances of copyrighted works in assessing damages, since copyright laws do not have extraterritorial operation.

5. Accounting — Damages — Copyrights (§11.253)

There are three ways of getting damages for copyright infringement under 17 U.S.C. 101: (1) actual damages to copyright proprietor, (2) profits that infringer has made from such infringement, or (3) in lieu of actual damages and profits, damages as appear to court to be just, which shall not exceed $5,000 nor be less than $250 and shall not be regarded as penalty.

Supreme Court, U. S.
FILED
JUN 1 1976
MICHAEL RODAK, JR., CLERK

IN THE

Supreme Court of the United States

OCTOBER TERM, 1975.

No. 75-1744

E-T INDUSTRIES, INC.,
Petitioner,

vs.

WHITTAKER CORP. AND DES PLAINES GRAND AUTOMOTIVE SPEED CENTER, INC.,
Respondents.

PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE SEVENTH CIRCUIT.

SUPPLEMENTAL APPENDIX.
[Beith Patent No. 3,329,468]

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July 4, 1967 R. D. BEITH 3,329,468

WHEEL STRUCTURE

Filed Oct. 21, 1965 2 Sheets-Sheet 1

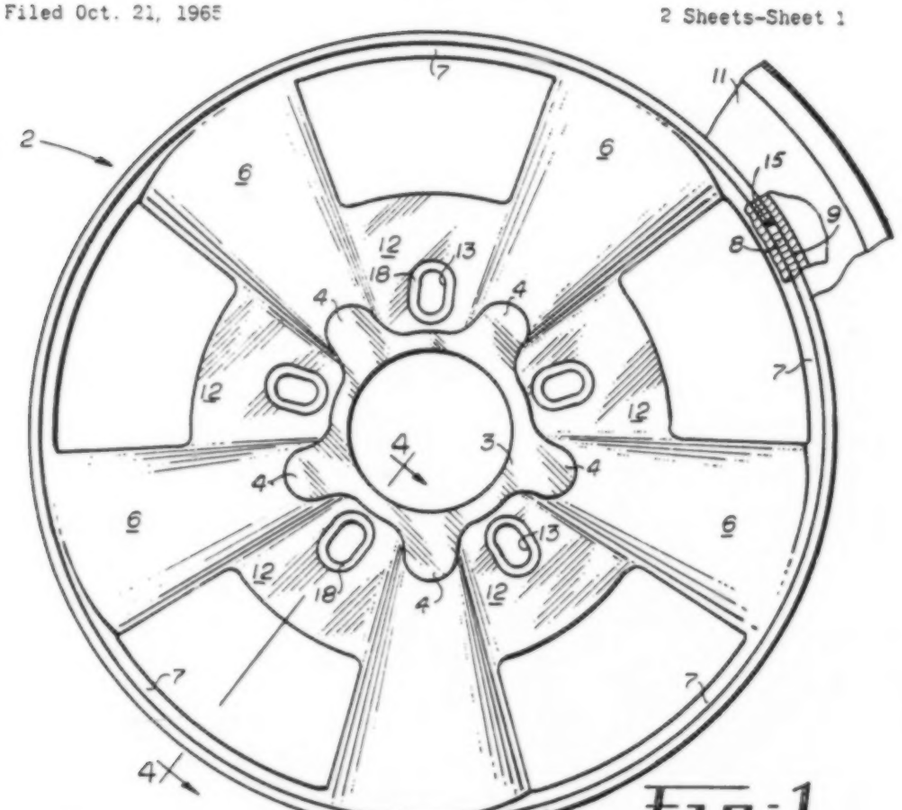


Fig-1

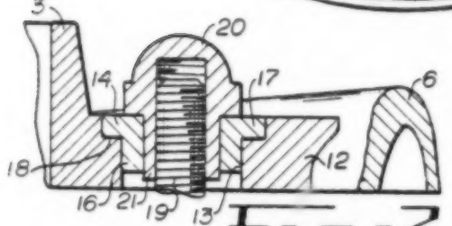


Fig-2

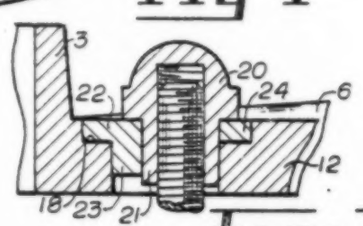


Fig-3

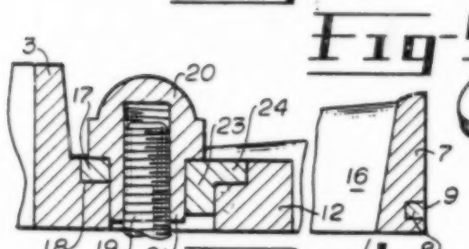


Fig-4

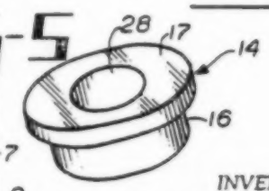


Fig-5

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July 4, 1967 R. D. BEITH 3,329,468

WHEEL STRUCTURE

Filed Oct. 21, 1965 2 Sheets-Sheet 2

Fig-8

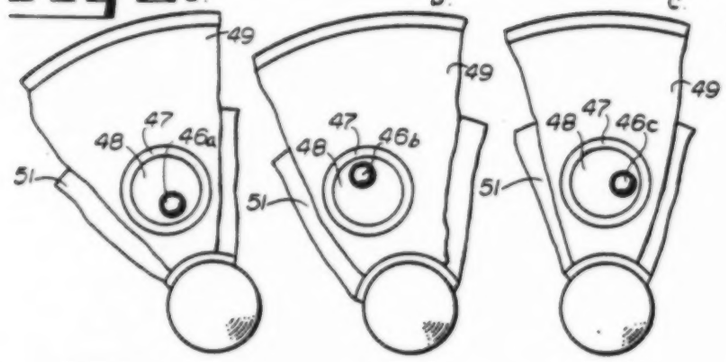
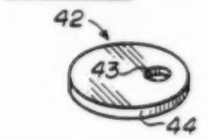


Fig-9



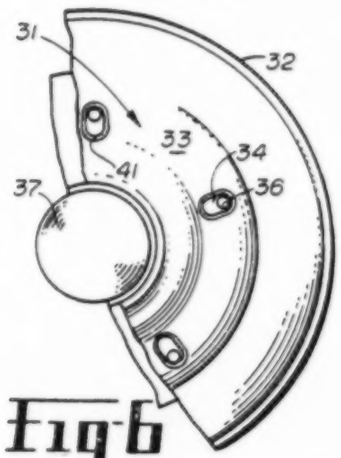


Fig-6

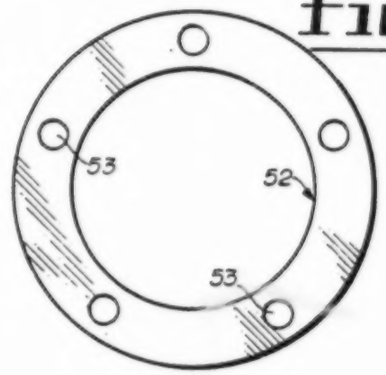


Fig-10

Fig-11

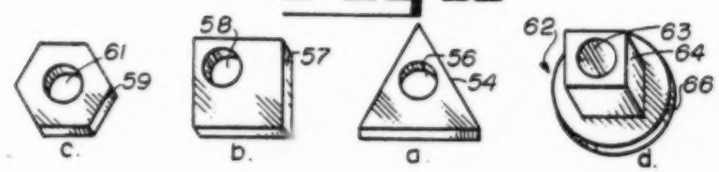


Fig-7



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United States Patent Office 3,329,468 Patented July 4, 1967

3,329,468

WHEEL STRUCTURE

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Filed Oct. 21, 1965, Ser. No. 499,745
23 Claims. (Cl. 301—9)

This application is a continuation-in-part of copending patent application Ser. No. 469,810 filed July 6, 1965. The invention relates to motor vehicular wheel structures, and particularly to a wheel universally applicable to vehicles regardless of their wheel lug bolt circle radii.

It has become popular to dress up automobiles and trucks to enhance their appearance. One of the ways in which their appearance can be enhanced is by providing a decorative wheel. Highly polished aluminum or magnesium wheels have become quite popular for this purpose. One of the disadvantages of this type wheel is its cost. Because of its construction, i.e., being sand or die cast, as a general rule, the wheels are expensive. For instance, a set of four such wheels can cost as much as two hundred dollars or more. Such costs make it prohibitive for a dealer in wheels to inventory more than one or two types which fit the most popular type automobiles, such as the lower priced makes and models.

It is not generally known that the wheels of most makes of automobiles are not interchangeable with those of other makes. There are exceptions of course, but few automobiles have wheel lug bolts arranged in bolt circles that match those of other makes of automobiles so that their wheels are interchangeable. Accordingly, it is an object of the present invention to provide a wheel which is universally applicable to many different makes of motor vehicles.

An analysis of the radii of lug bolt circles of most makes of automobiles has revealed that there are essentially three different diameter bolt circles utilized; 4½, 4¾ and 5 inches. Therefore, it is another object of this invention to provide a wheel which incorporates means for accommodating the three different diameter bolt circles of most automobiles.

Automotive wheels of the conventional type are usually manufactured in two halves, each half being stamped from sheet steel. The halves are then abutted and secured together in a suitable manner such as by welding. In this construction, the halves of the wheel are formed so that the tire flanges within which the beads of the tire are trapped are automatically formed and juxtaposed when the two halves of the wheel are assembled and welded. Another form of conventional steel wheel utilizes a toroidal tire mounting rim having flanges which are spun out to form the juxtaposed lips or flanges which lock the tire to the wheel. This toroidal tire mounting rim is commonly secured to a wheel center, or wheel mounting portion which is stamped from sheet steel and which adjacent its inner periphery is provided with a plurality of circular lug apertures arranged about a circle identical to the lug bolt circle and which about its outer periphery is secured in some suitable manner, such as welding or riveting, to the inner periphery of the toroidal tire mounting rim. Although wheels manufactured in this manner are relatively inexpensive and not decorative to the extent desired by those who wish to purchase a decorative wheel, many advantages are to be gained by the provision of a wheel capable of accommodating automobiles having different diameter lug bolt circles.

In order to achieve a decorative effect, one type of wheel forming the subject matter of this invention is formed with a cast central section which may be polished to a high luster and which may be formed in a variety of different configurations to secure the desired aesthetic

effect. It is desirable however, to fabricate the tire mounting rim of the wheel from sheet steel as in the past so as to provide a strong and rigid mounting base for the tire. Since the central cast section is usually fabricated from cast aluminum or magnesium and the outer tire mounting rim is usually fabricated from sheet steel, the joining of one to the other poses a difficult problem. Accordingly, it is still another object of the invention to provide novel means for attachment of the tire mounting rim of the wheel to the cast central portion of the wheel.

The invention possesses other objects and features of advantage, some of which, with the foregoing, will become apparent from the following description and the drawings. It is to be understood however that the invention is not limited to the embodiment illustrated and described, since the invention may be embodied in various forms within the scope of the appended claims.

Referring to the drawings:

FIGURE 1 is a side elevational view of the central cast wheel mounting section of the wheel with a portion of the tire mounting rim removed to reduce the size of the figure.

FIGURE 2 is a fragmentary sectional view showing the relationship between a wheel fastening lug and the lug aperture through which it extends. In this figure the lug is shown in a symmetrical relationship with respect to the aperture through which it extends.

FIGURE 3 is a fragmentary sectional view illustrating another and different relationship between the lug and the aperture through which it extends. In this illustration the lug or bolt circle diameter is increased over that shown in FIGURE 2 so that the lug extends through the lug aperture nearer the peripheral portion thereof remote from the central axis of the wheel.

FIGURE 4 is a fragmentary sectional view in which the relationship between the lug and the aperture through which each extends is such that the apertures accommodate a lug or bolt circle of smaller diameter than the diameters shown on FIGURES 2 and 3, and in which the lug is positioned within the aperture adjacent the peripheral portion thereof next adjacent the axis of the wheel.

FIGURE 5 is a perspective view of the adapter shown in FIGURE 2 which is interposed between the lug nut and the wheel to provide a symmetrical positioning of the lug within the lug aperture.

FIGURE 6 is a section of a side elevation view of a standard wheel structure constructed in accordance with the present invention.

FIGURE 7 is a perspective view of an elongated apertured washer for positioning the lug bolt within the lug aperture of the wheel structure of FIGURE 6.

FIGURE 8 is a fragmentary view illustrating the relationship between wheel fastening lug bolts of different diameter lug bolt circles and a single wheel center having oversized circular lug apertures with portion (a) showing the wheel center arranged to receive the lug bolts defining the minimum lug bolt diameter which may be accommodated by the wheel center, portion (b) showing the wheel center arranged to receive the lug bolts defining the maximum lug bolt diameter which may be accommodated by the wheel center, and portion (c) showing the wheel center arranged to receive the lug bolts defining an intermediate diameter lug bolt circle which may be accommodated by the wheel center.

FIGURE 9 is a perspective view of an apertured circular washer to be employed with the wheel center of FIGURE 8 for positioning the lug bolt within the lug aperture.

FIGURE 10 is an apertured annular member for positioning the lug bolts within the lug apertures of a wheel center.

FIGURE 11 illustrates various apertured adapters for positioning lug bolts within lug apertures with portion (a) portraying a triangular configuration, portion (b) portraying a quadrilateral configuration, portion (c) portraying a polygonal configuration, and portion (d) portraying a flanged bushing configuration.

With reference to FIGURE 6, broadly considered, the substantially universally applicable wheel structure of my invention comprises a central annular portion **31**, generally metal, about which is fitted and suitably secured as by welding a flanged tire mounting rim **32**. In fabricating decorative wheels, the central annular metallic portion **31** is preferably cast from a light metal such as aluminum or magnesium or other alloy and comprises an annular wheel mounting portion **33** having a plurality of circumferentially spaced lug apertures **34** therein for accommodating the lug bolts **36** which project from a standard brake drum and hub assembly **37**, for instance. The size of lug apertures **34** is adjusted so that they are able to accommodate circumferentially spaced lug bolts circularly arranged in bolt circles of different radius. Although various configurations of lug apertures are suitable for practicing the present invention, for example, circular, triangular, quadrilateral or polygonal, it has been found particularly advantageous for ease of assembling as well as manufacturing to form the lug apertures **34** with an elongated or oval configuration in which the long or major axis of the aperture **34** extends radially outward from the center of the wheels.

With reference to FIGURE 7, to insure that lug bolts **36** are secured in the proper position within the oversized lug apertures **34**, adapter means **38** are provided cooperating with the oblong lug apertures **34** to accommodate lug bolts **36** arranged on different diameter lug bolt circles.

More specifically, in accordance with the particular wheel structure of FIGURE 6, adapter means **38** are elongated or oval washers with an aperture **39** cut therein at a predetermined location. The location of the aperture **39** is selected in accordance with the lug bolt circle diameter characteristic of the vehicle on which the wheel of the present invention is to be mounted. One elongated washer adapter means **38** is disposed at an adapter receiving seat region about lug aperture **34** and in covering relation with each lug aperture **34** to have its apertures **39** aligned to receive therethrough lug bolts **36**.

Referring again to FIGURE 6, to facilitate assembling and indexing of adapter means **38**, the surface of annular wheel mounting portion **33** proximate to and defining each lug aperture **34** is rabbetted to define an elongated recess **41** circumjacent the lug aperture **34**. The size of recess **41** is adjusted to snuggingly receive therein adapter means **38**.

In terms of greater detail, a decorative wheel structure embodiment of my invention comprises a centrally disposed cast hub or mounting portion designated generally by the numeral **2** in FIGURE 1, the central hub or mounting portion including an axially extending cylindrical section **3** defining the inner periphery of the hub and having at circumferentially equally spaced intervals a plurality of radially outwardly extending projections **4** as shown best in FIGURE 1 to strengthen and rigidify the mounting portion. The projections **4** are integral with the central axially extending cylindrical section **3**. Projecting radially outwardly from each of the projections is an integral spoke **6**. Each spoke is preferably formed with a semi-circular cross-section as shown in FIGURE 2 and is tapered so that its apex end is integral with the associated projection **4** and its base is integral with a circular felly **7** cast so that it ties the outer ends of the spokes **6** together into a rigid unitized structure. Embedded in the cast felly **7** adjacent one edge thereof as illustrated best in FIGURES 1 and 4, is a steel mounting band **8**. The mounting band is embedded in the felly **7** with at least an axially extending surface **9** exposed so as to permit welding of the flanged tire mounting rim **11** thereto as shown in FIGURE 1. The mounting band **8** and the tire mounting rim **11** define a T joint at surface **9** of the mounting band **8**. The types of welds suitable for connecting members to form a T joint are described in "Welding Handbook," edited by Arthur L. Phillips, published by American Welding Society, 1952, 5th edition, Section 1, page 1.39, FIG. 1.24. In the particular wheel structure embodiment of the present invention illustrated in FIGURES 1–4, plug or slot welds would be used to fasten the mounting band **8** to the tire mounting rim **11** since only the top surface **9** of the mounting band **8** is exposed. The design criteria for forming plug or slot welds by arc or gas welding processes is well known to those skilled in the art and is set forth in detail in "Welding Engineering" by Boniface E. Rossi, published by McGraw-Hill Book Company, Inc., 1954, p. 556. Being embedded in the cast central mounting portion, the ends of the band need not be welded since once the flanged tire mounting rim is placed around the band and welded thereto it cannot shift in any direction and forms a lock to safely secure the tire mounting rim to the wheel mounting portion. The fact that the band ends are not welded and define gap **15** serves another important function which is to permit accommodation of different rates of thermal expansion and contraction between the cast metallic wheel portion and the band during the casting process. Still another advantage flows from leaving the ends of the band free. The band possesses an inherent resilience so that it may be sprung into position in the cavity of the mold and be held there by the inherent resilience of the band during the casting process. This eliminates the necessity of using auxiliary supports for the band within the mold cavity thus facilitating fabrication. It will of course be apparent that two or more parallel bands appropriately spaced apart could be used instead of a single band.

In order to strengthen the integral union between the central cylindrical section **3** and the spokes **6**, the sector between adjacent spokes is provided with an integral web **12** as shown best in FIGURE 1. Each web is provided adjacent its inner periphery where it unites with the cylindrical section **3** with an aperture **13** as shown which is preferably formed having an elongated or oval configuration in a direction perpendicular to the axis of the wheel and the central cylindrical section **3**. In other words, the major or long axis of each oval or oblong aperture **13** extends radially away from and perpendicular to the central axis of the wheel. The mean radius of the apertures about the central axis of the wheel and the length of the apertures are proportioned so that the wheel as illustrated in FIGURE 1 will accommodate many different diameters of lug bolt circles. However, for safety reasons, it is essential that there be as little relative movement between the wheel and the lug bolts which support it as is practical to attain. It is apparent therefore, that it is desirable that the excess space in the lug aperture **13** be eliminated in some manner while permitting accommodation of the different lug bolt circle diameters. Accordingly, as illustrated in FIGURES 2 and 5, to solve this problem when the mean radius of the apertures is the same as the radius of the lug bolt circle, I provide a centrally apertured adapter **14** having an oval or oblong bushing section **16** wedged to fit snugly within the oblong lug aperture **13** and centralize the lug bolt within the aperture while filling the excess space around the lug bolt so as to preclude relative movement therebetween. The adapter **14** is also provided with a radially extending flange portion **17** proportioned to seat snugly in a rabbet **18** formed in web **12** about each aperture **13** to define a recessed adapter receiving seat region circumjacent each lug aperture. A lug nut **20** having a cylindrical sleeve or bushing portion **21** extending into the central adapter aperture is provided to secure the wheel to the lug bolt and insure that no relative movement occurs between the adapter and lug bolt. However, in those cases where the

lug bolt extends beyond the surface of adapter **14**, the bushing portion **21** of lug nut **20** would not be needed. Hence, the size of the central adapter aperture **28** would be adjusted to snuggingly receive the lug bolt therethrough and prevent relative movement between the adapter **14** and lug bolt.

In order to secure the wheel to a series of lug bolts having a bolt circle of either larger diameter or smaller diameter than that illustrated in FIGURE 2, I provide a second adapter **22** illustrated in FIGURES 3 and 4. This adapter is provided with a flange or bushing portion **23** similar to the bushing **16** on adapter **14**, but the bushing portion **23** of this adapter is formed with a discontinuity on one side and a thicker section on the other side to compensate for the discontinuity. Thus, when the radially extending flange portion **24** of the adapter **22** is dropped snugly into the rabbet **18** of the lug aperture so as to accommodate the largest diameter lug bolt circle, as illustrated in FIGURE 3 for instance, the thickened bushing portion **23** lies next adjacent the central axis of the wheel, and the discontinuity in the bushing permits passage of the wheel lug bolt through the lug aperture at a distance farther removed from said central axis than the mean radius of said apertures.

On the other hand, referring to FIGURE 4, when it is desired to accommodate a lug bolt circle of smaller radius than the mean radius of the lug apertures, it is merely necessary to reverse the position of the thickened bushing portion within the lug aperture so that the discontinuity therein appears next adjacent the central axis of the wheel. By providing such an adapter **22** and rabbet **18** having at least one line of symmetry transverse to the radius of the central mounting portion **2** and with the adapter aperture **28** located off the centric and the line of symmetry which can be located only perpendicular to the radius, a single adapter **22** can be employed to secure the wheel to lug bolts located on two different radii bolt circles. As will be explained in greater detail hereinafter in particular reference to FIGS. 8–9, configurations of adapters having more than two lines of symmetry will allow a single adapter to be used to secure the wheel to lug bolts located on many different radii bolt circles.

The lug nut **20** is of course proportioned so as to fit snugly within the central aperture of the adapters **14** and **22**.

Referring now to FIGURES 8 and 9, a particularly versatile embodiment of the wheel structure of the present invention is illustrated. Specifically, a circular washer adapter **42** define an aperture **43** located off center proximate its periphery **44** for receiving various lug bolts **46***a*, **46***b*, and **46***c* therethrough. The adapter **42** is seated in a circular recess **47** circumjacent a lug aperture **48** of a wheel center **49**. The size of lug aperture **48** is adjusted so that the wheel center **49** may be mounted to a brake drum and hub assembly **51** of automobiles having different diameter lug bolt circles. For example, as illustrated in FIGURE 8(*a*), the wheel center **49** is mounted to a brake drum and hub assembly **51** having lug bolts **46A** defining the minimum diameter lug bolt circle which the wheel center can accommodate. In FIGURE 8(*b*), the wheel center **49** is mounted by lug bolts **46B** defining the maximum diameter lug bolt circle which the wheel center can accommodate. FIGURE 8(*c*) portrays the wheel center **49** mounted by lug bolts **46C** defining a lug bolt circle of a diameter intermediate the maximum and minimum diameter lug bolt circle which the wheel center can accommodate. From the foregoing description, it is seen that a wheel center constructed with circular lug apertures **48** and utilizing the one circular adapter **42** of FIGURE 9 can fit any size diameter lug bolt circle between a minimum and maximum. Although this embodiment is more flexible in use than the embodiment characterized in FIGURES 6–7, it should be noted that the wheel structure of FIGURES 6–7 are easier to mount on a brake drum and hub assembly. Furthermore, because

of the circular geometry of the wheel center apertures recess, and the adapter of the wheel structure embodiments illustrated in FIGURES 8 and 9, the casting and machining manufacturing processes are simplified considerably.

Although the wheel structure of the present invention has been described with particular reference to three embodiments, it should be appreciated that many variations are possible, particularly in the construction of the apertured adapter for positioning the lug bolts within the lug bolt apertures, and the construction of the lug bolt apertures. For example, in FIGURE 10 an annular member adapter **52** is illustrated. The annular member **52** is provided with a series of apertures **53** circumferentially and radially spaced to receive lug bolts arranged on a bolt circle of a given mean radius. In use, the annular member **52** would be positioned over the lug apertures of a wheel center, for example, as illustrated in FIGURE 6, with their apertures **53** in alignment with the lug apertures thereof. Alternative embodiments of the lug bolt positioning adapter are illustrated in FIG. 11 which embodiments like those of FIGS. 5, 7, and 11 are of configurations such that the distance from their respective centers to their respective seating peripheries varies about the peripheries to prevent rotation of the adapters in their respective seats. For example, in FIGURE 11(*a*) a triangular adapter **54** having an aperture **56** for mounting to a wheel structure is illustrated. In FIGURE 11(*b*) a quadrilateral adapter **57** having an aperture **58** for mounting to a wheel structure is illustrated. FIGURE 11(*c*) illustrates a polygonal adapter **59** having an aperture **61** for mounting to a wheel structure. Of course, in all of the above examples, the particular location of the adapter apertures, i.e., **56**, **58**, **61**, depends upon the diameter of the lug bolt circle of the brake drum and hub assembly to which the wheel structure is to be mounted. Referring to FIGURE 11(*d*), a circularly flanged rectangular bushing type adapter **62** having an aperture **63** is illustrated. Such an adapter **62** would be indexingly secured in position in a wheel structure having rectangular lug apertures by the rectangular bushing section **64**. The circular flange section **65** serves to prevent the bushing section **64** from slipping through the lug aperture of the wheel structure. However, by tapering the bushing section **64** to have a segment slightly larger than the lug aperture and thereby prevent the bushing section **64** from passing therethrough, the flanged section **65** wouldn't be needed. Hence, it is seen many variations in lug aperture and adapter geometries are possible without departing from the scope of the invention.

It will thus be seen that my novel wheel makes it possible for a dealer in wheels to carry only one or two popular size wheels and universal sets of lug adapters to accommodate those wheels to most makes of automobiles. It should of course be understood that the invention is not limited to use on an automobile wheel but is applicable to any type wheel where universal application is useful or desired.

It should also be understood that while from the standpoint of maximum safety, it has been stated that the use of the adapters is required to eliminate the excess space about the lugs, this is not literally true, and in appropriate circumstances, such as in FIGURES 3 and 4, where the skirt or bushing portion **21** of the lug nut bears directly against the inner periphery of the lug aperture at one end and along the sides for about 180 degrees, the adapters may be dispensed with. In this view of the invention, if desired, the rabbet about the lug apertures could also be eliminated. To discard the adapters however would limit to two the number of different bolt circle diameters that could be accommodated.

What I claim is:

1. A wheel structure comprising a central wheel mounting portion having a central axis for supporting a tire thereabout and defining a series of circumferentially

spaced lug apertures of a size to accommodate lug bolts circularly arranged in bolt circles of different radii and an adapter receiving seat region about the lug apertures, adapter means snugly seated in said seat region in covering relation with said lug apertures and defining apertures aligned with the lug apertures for receiving therethrough lug bolts in a bolt circle of a selected radius, the adapter receiving seat region and adapter means formed to allow the seat region to snugly receive the adapter means in at least two orientations, said adapter means defining the adapter apertures to be located at a different radial distance from the central axis for each orientation in which the adapter means is seated.

2. The wheel structure according to claim 1 wherein said central wheel mounting portion defines an adapter receiving seat region separately about each lug aperture, and said adapter means is a washer defining a washer aperture snugly seated in each seat region in covering relation with each lug aperture.

3. The wheel structure according to claim 2 wherein said lug apertures and said washers are elongated.

4. The wheel structure according to claim 2 wherein said lug apertures and said washers are circular.

5. The wheel structure according to claim 2 wherein said lug apertures and said washers are multisided.

6. The wheel structure according to claim 2 wherein said adapter means further comprising a bushing section integrally secured to each washer and snugly inserted within each lug aperture to snugly seat the washers in the seat regions, said bushing section defining a bushing aperture in alignment with said washer aperture.

7. The wheel structure according to claim 2 wherein a portion of the surface of said central wheel mounting portion circumjacent said lug apertures is rabbetted to define a recessed adapter receiving seat region to snugly receive said washer.

8. The wheel structure according to claim 7 wherein said adapter means further comprises a bushing section integrally secured to each washer and snugly inserted within each lug aperture, said bushing section defining a bushing aperture in alignment with said washer aperture.

9. The wheel structure according to claim 1 wherein a tire mounting rim is secured about the central wheel mounting portion for receiving said tire.

10. The wheel structure according to claim 9 wherein said lug apertures are elongated and a portion of the surface of said central wheel mounting portion circumjacent said lug apertures is rabbetted to define an elongated recessed adapter receiving seat region, and said adapter means is an elongated washer defining a washer aperture snugly seated in said elongated recessed seat.

11. The wheel structure according to claim 1 wherein said central wheel mounting portion has a felly portion about its periphery, and a weldable mounting band is embedded in said felly portion with a surface thereof exposed for welding to a tire mounting rim.

12. The wheel structure according to claim 11 wherein said mounting band is discontinuous to define a space between adjacent ends thereof.

13. The wheel structure according to claim 11 wherein said central wheel mounting portion is fabricated from non-ferrous material, said mounting band is fabricated from ferrous material, and including a ferrous tire mounting rim welded to said mounting band.

14. The wheel structure according to claim 11 wherein said central wheel mounting portion includes a hub portion and circumferentially spaced radially extending spokes fixedly interposed the hub portion and the felly portion.

15. A wheel structure comprising a central wheel mounting portion for supporting a tire about a central axis defining a series of circumferentially spaced lug apertures of a size to accommodate lug bolts circularly arranged in bolt circles of different radii and an adapter receiving seat region about each of the lug apertures, an adapter snugly seated in each seat region in covering relation with

said lug apertures and defining an aperture aligned with the lug aperture for receiving therethrough lug bolts in a bolt circle of a selected radius, said adapter seat region and juxtaposed adapter portion of a configuration such that the distance from their respective centers to their respective peripheries varies about their peripheries thereby preventing rotation of said adapter in said seat.

16. The wheel structure according to claim 15 wherein a portion of the surface of said wheel center circumjacent said lug apertures is rabbetted to define a recessed adapter receiving seat region, and at least one of either said series of recessed seat regions and said series of lug apertures of a configuration such that the distance from their respective centers to their respective peripheries varies about their peripheries.

17. The wheel structure according to claim 16 wherein said rabbetted portion is elongated, and each of said adapters is an elongated washer defining a washer aperture snugly seated in said elongated recessed seat region.

18. The wheel structure according to claim 15 wherein said adapters are apertured washers, and further comprising a bushing section integrally joined to each washer and snugly inserted within each lug aperture to snugly seat the washers in the seat regions, said bushing section defining a bushing aperture in alignment with said washer aperture.

19. The wheel structure according to claim 15 wherein a tire mounting rim is secured about the central wheel mounting portion for securing said tire.

20. The wheel structure according to claim 19 wherein said central wheel mounting portion has a felly portion about the periphery, and a weldable mounting band is embedded in said felly portion with a surface thereof exposed, said rim welded to said mounting band.

21. The wheel structure according to claim 20 wherein said mounting band is discontinuous to define a space between adjacent ends thereof.

22. The wheel structure according to claim 20 wherein said central wheel mounting portion includes a hub portion and circumferentially spaced radially extending spokes fixedly interposed the hub portion and the felly portion.

23. A wheel structure comprising a non-ferrous central wheel mounting portion disposed about a central axis, a felly portion concentrically disposed about said central wheel mounting portion in radially spaced relation thereto, a ferrous mounting band embedded in said felly portion to have a single axially extending peripheral surface thereof exposed, said band having a single discontinuous portion defining a space between adjacent ends thereof, and a ferrous tire mounting rim welded to the exposed surface of said mounting band.

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3,166,357	1/1965	Vachon	301—63 X
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BENJAMIN HERSH, *Primary Examiner.*

RICHARD J. JOHNSON, *Examiner.*

U. S.
F I L E D
JUN 24 1976
MICHAEL RODAK, JR., CLERK

IN THE

Supreme Court of the United States

OCTOBER TERM, 1975.

No. 75-1744

E-T INDUSTRIES, INC.,

Petitioner,

vs.

WHITTAKER CORP. AND DES PLAINES GRAND AUTOMOTIVE SPEED CENTER, INC.,

Respondents.

ON PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE SEVENTH CIRCUIT.

BRIEF FOR THE RESPONDENTS IN OPPOSITION.

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TABLE OF CONTENTS.

	PAGE
Table of Authorities	ii
Cases	ii
Statute	ii
Constitutional Provision and Statutes Involved	1
Statement	2
Summary of the Case	2
Summary of Facts Pertinent to This Petition	3
Argument	5
This Case Presents No New or Unique Question Involving a Conflict of Decisions Between The Circuits or with This Court	6
The Court of Appeals Correctly Distinguished United States v. Adams	7
Conclusion	9

APPENDIX.

Opinion of the Court of Appeals for the Seventh Circuit	App. 1

TABLE OF AUTHORITIES.

Cases.

A & P Tea Co. v. Supermarket Equipment Corp., 340 U. S. 147, 95 L. Ed. 162 ..... 5, 6,7

Anderson's-Black Rock, Inc. v. Pavement Salvage Co., 396 U. S. 57 (1969) 5, 6

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Constitution of the United States.

Article 1, Section 8, Clause 8 1

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CONSTITUTIONAL PROVISION AND STATUTES INVOLVED.

1. Article 1 § 8, clause 8, United States Constitution which provides that Congress may enact laws:

> "To promote the progress of science and useful arts by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries."

2. Title 35 USC § 103 which provides:

> "A patent may not be obtained though the invention is not identically disclosed or described as set forth in § 102 of this Title if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at

the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains."

STATEMENT.

Summary of the Case.

Petitioner, E-T Industries, Inc. (hereinafter called E-T) is the owner[1] of Beith Patent No. 3,329,468 and initiated suit on October 8, 1970 in the United States District Court for the Northern District of Illinois charging infringement of the patent. Defendants named in the original suit were Ansen Automotive Engineering, then a wholly owned subsidiary of Whittaker Corporation and Des Plaines Grand Automotive Speed Center Inc., a distributor. The original action was voluntarily dismissed with respect to Ansen Automotive Engineering, which company then filed a Declaratory Judgment Action in the United States District Court for the Northern District of California seeking a holding that the patent is invalid. The California case, on motion by Petitioner, was transferred to the Northern District of Illinois and consolidated with the original action for trial. Trial was held in April 1974, and the District Court, on October 31, 1974, handed down an opinion holding the patent valid and infringed and dismissing the claims for trademark infringement.

Respondents appealed the Trial Court's Decision to the United States Court of Appeals For The Seventh Circuit, which Court handed down an opinion on September 25, 1975, reversing the Trial Court and holding the "Beith patent was obvious within the meaning of 35 USC § 103 and, accordingly, the patent is invalid".[2] Petitioner then requested a rehearing *en banc*, which request was denied in an order dated March 11, 1976.

1. The statement on page 22 of Petitioner's memorandum that it purchased the patent for $1,375,000 is incorrect. The record is that Petitioner itself was purchased at that figure by F. D. I., Inc.

2. App. 8.

Summary of Facts Pertinent to This Petition.

While several independent affirmative defenses asserting both noninfringement and invalidity were presented to the Appellate Court for review, the Appellate Court principally considered the question of the obviousness of the Beith development under 35 USC § 103. The Appellate Court observed that while the District Court had reviewed the prior art in detail, "we need mention only two items, Adair[1] and Siler".[2] See App. 3.

The Beith patent in suit recognizes the well-known fact that automobiles use securing bolts or lugs fixed to brake drums and axles and that the diameters of the bolt circle or pattern in various cars of different manufacturers are not the same. The Beith patent suggests that a wheel may be adapted for fitting more than one bolt pattern by forming enlarged slots or openings. While this enables the openings to accommodate bolts arranged in different patterns, it also means that there will be excess space in the apertures around the bolts. The Beith specification further suggests that it is desirable "that the excess space in the lug apertures be eliminated in some manner. . . ." (Column 4, lines 55-57) and the drawings show several elements called washers or adapters which are either circular, oval, triangular or otherwise shaped for fitting into cut-out pockets or seats formed around the oversized holes.

The prior art Adair patent also relates to an automobile wheel provided with elongated openings or slots in a central mounting or hub portion so that it is adapted to be interchangably assembled on automobiles having bolt patterns of different diameters. In Adair, the securing nuts on several of the bolts simply bridge the slots or openings and engage opposite edges thereof in chamfered seats, but the excess space along the length of the slots remains. The record contains specimens of actual operative wheels made by Adair.

1. Adair Patent No. 2,590,363.
2. Siler Patent No. 3,006,343.

The Siler patent pertains to the fastening of parts together wherein an oversized aperture is deliberately designed in one part for receiving bolts in different positions. Adapters or washers fitting in recessed seats are provided for filling up the excess space.[1] In view of these documents, the Appellate Court found:

> "Each of the two essential parts of Beith's conception—first, enlarging the lug apertures to receive bolt arrangements of different radii; and second, effectively reducing the size of the enlarged openings to enable them to receive normal lug bolts—was unquestionably taught by the prior art. . . . in this case, the combination cannot be described as synergistic, and it seems rather clear that an artisan who conceived of the first step in his consideration of the problem of making an interchangable wheel would readily recognize the need for an adapter or an insert."

The Appellate Court then alluded to this Honorable Court's decision in the *United States* v. *Adams*, 383 U. S. 39 (1966), 86th S. Ct. 708, 15 L. Ed. 2d 572, and observed that there the decision of nonobviousness "rested heavily on evidence that long accepted factors would deter any investigation into the combination used by Adams." The Appellate Court then noted that the long accepted factors of the type in the *Adams* case are not found herein. To the contrary:

> "As the testimony of Plaintiff's own expert indicated, the problem was not so serious as to deter any investigation at all of enlarged lug apertures, but rather it was a problem typical of almost any new wheel design which would normally require careful testing and perhaps further experimentation and modification."

Beith alleged conception of his development in January, 1965, and the original patent application was filed in July, 1965. The documentary evidence and deposition testimony of an independent engineer named Ostgaard and others established that Ansen initiated a universal wheel development program

1. See page 5 of App. for drawing comparing Siler and Beith.

in 1964. During a period between May and November, 1964, Ostgaard produced drawings showing universal wheel structures having elongated slots or openings in mounting portions for accommodating different bolt diameters and also having seats for receiving washers or adapters which filled up the excess space. In addition, a similar prototype wheel known as the Fujii wheel was produced and placed on Dennis Fujii's car and driven about in his day to day business. While several deposition witnesses living in California positively identified the wheel as having been on Dennis Fujii's car prior to his entry into the Marines in March, 1965, and the wheel was further identified by live witnesses at the Trial, the District Court criticized the proofs pertaining to the exact time it was tested. However, the District Court did not deny the obvious existence of the wheel at about the time of the Beith development and the Appellate Court considered the wheel along with the Ostgaard drawings and held that these facts were consistent "with our own conclusion that the concept [Beith] was obvious".[1]

ARGUMENT.

There are no special and important reasons presented for granting the Petition. Nothing in the Court of Appeals decision is in conflict with the decision of another Court of Appeals or in conflict with applicable decisions of this Court. To the contrary, the Court of Appeals closely followed and acted in accordance with the mandates of this Court as expressed in *A & P Tea Co.* v. *Supermarket Equipment Corp.*, 340 U. S. 147, 95 L. Ed. 162; *Graham* v. *John Deere Co.*, 383 U. S. 1 (1966); *Anderson's-Black Rock Co. Inc.* v. *Pavement Salvage Company*, 396 U. S. 57 (1969); *United States* v. *Adams*, 383 U. S. 39 (1966) 86th S. Ct. 708, 15 L. Ed 2d 572 (1966); *Dann, Commissioner of Patents and Trademarks* v. *Johnson*, ____ U. S. ____; 47 L. Ed. 2d 692 (1976); and *Sakraida* v.

1. App. 7.

Ag Pro, Inc., ____ U. S. ____, 47 L. Ed. 2d 784; 189 USPQ 449 (1976). As required, the Court of Appeals scrutinized the Beith combination of old elements and found the patent invalid for obviousness.

This Case Presents No New or Unique Question Involving a Conflict of Decisions Between the Circuits or with This Court.

Contrary to Petitioner's assertions, there is no significant issue involved in this case as to the nature of the question of obviousness. There is and can be no factual dispute as to the existence of the prior art Adair and Siler patents which establish that each element of the Beith patent is old so that the Beith patent is simply directed to a combination of old elements. The patentability of such a combination of old elements has quite recently been considered by this Honorable Court in *Sakraida* v. *Ag Pro, Inc., supra,* in the decision handed down on April 20, 1976. There clearly is no compelling reason for this Honorable Court so soon to consider again similar issues.

In fact a review of the decision by the Court of Appeals reveals that it expressly recognized the concept that claims to a combination of old elements should be scrutinized "with a care proportioned to the difficulty and improbability of finding invention in an assembly of old elements", *A & P Tea Co.* v. *Supermarket Corp., supra; Anderson's-Black Rock* v. *Pavement Co., supra; Sakraida* v. *Ag Pro, Inc., supra.* As this Honorable Court did in the *Ag Pro, Inc.* case, *supra,* the Court of Appeals scrutinized the combination of old elements and held:

> "In this case the combination cannot be described as synergistic, and it seems rather clear that an artisan who conceived of the first step in his consideration of the problem of making an interchangable wheel would readily recognize the need for an adapter or an insert."

The decision by the Court of Appeals also shows that it adhered to the often stated rule that the test of patent validity or

obviousness is one of law, *A & P Tea Co.* v. *Supermarket Corp., supra; Graham* v. *John Deere Co., supra; Dann* v. *Johnson, supra.* As expressed in *Dann* v. *Johnson, supra,* decided shortly before *Ag Pro, Inc., supra,* factors outlined in *Graham, supra* should be considered and:

> "Guided by these factors, we [the Court] proceed to an inquiry into the obviousness of respondent's system."

In the same manner, the Court of Appeals in the case at bar recognized the requirements of *Graham, supra,* and proceeded to an inquiry into the obviousness of the Beith development and found the patent invalid.

The Court of Appeals Correctly Distinguished United States v. Adams.

While Petitioner asserts that the case at bar was incorrectly distinguished from *U. S.* v. *Adams, supra,* it is plain that Petitioner's arguments primarily refer to its contentions with respect to the evidence in the record rather than any purported important question of law arising from the Appellate Court's analysis of the *Adams* case.

Contrary to Petitioner's contentions, the Appellate Court properly recognized that the holding of nonobviousness in the *Adams* case "rested heavily on evidence that long accepted factors would deter any investigation into the combination used by Adams". The Appellate Court in reviewing the *Adams* case Decision quoted this Honorable Court which said:

> "Despite the fact that each of the elements of the Adams' battery was well known in the prior art, to combine them as did Adams required that a person reasonably skilled in the prior art must ignore that (1) batteries which continue to operate on an open circuit and which heated in normal use are not practical; and (2) water-activated batteries were successful only when combined with electrolights detrimental to the use of magnesium. These long

> accepted factors, when taken together, would, we believe, deter any investigation into such a combination as used by Adams."

The compelling circumstances of the *Adams* case are clearly distinguishable from those of the present case wherein Beith's alleged "brash" conduct simply involved removing additional metal to make elongated slots. Far from it being long accepted that such additional metal should not be removed, the Adair and Siler patents taught that elongated or enlarged openings could be provided around bolts when mounting wheels or other parts together. Furthermore, as the Appellate Court observed, Petitioner's own expert witness testified that it was simply an ordinary design problem when on cross-examination he admitted:

> "The strength of any structure depends on two things basically—what the material is that you are using, the quality of the material, and number two, on the geometry. Between these two variables, you can generally get about everything you need in structure."

In reinforcing its conclusion the Appellate Court referred to evidence in the record comprising the Ostgaard drawings and the Fujii wheel showing that the problem of removing metal would not deter work incorporating such a concept since Ansen had made such a development at about the time of Beith's conception. Petitioner complains that the Appellate Court thus engaged in wholesale retrying of the facts, but such is not the case. The Ostgaard drawings speak for themselves and there is no contrary finding by the District Court. Neither was there any finding of the District Court contrary to the Court of Appeals' observation that Ansen experimented with the Fujii wheel at about the time of Beith's development.

CONCLUSION.

Since there is no important question concerning an alleged conflict in the Decision of the Court below with the decisions of other Circuits or of this Honorable Court nor is there any other question of compelling public importance, it is respectfully requested that the Petition be denied.

Respectfully submitted,

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E-T INDUSTRIES, INC.,
Plaintiff-Defendant-Appellee,

v.

WHITTAKER CORP. and Des Plaines Grand Automotive Speed Center, Inc.,
Defendants-Plaintiffs-Appellants.

No. 74-1924.

United States Court of Appeals,
Seventh Circuit.

Argued Feb. 21, 1975.

Decided Sept. 25, 1975.

Rehearing and Rehearing En Banc Denied March 4, 1976.

In patent case involving competing manufacturers of "mag wheels," the United States District Court for the Northern District of Illinois, Eastern Division, Richard W. McLaren, J., entered judgment from which appeal was taken. The Court of Appeals, Stevens, Circuit Judge, held that subject matter of patent on automobile wheel that would fit different makes of cars was obvious, and accordingly the patent was invalid.

Reversed.

1. Patents ⇐324.55(3, 4)

District court's judgment on ultimate issue of validity of patent was entitled to special respect because of his better opportunity to have the exhibits explained to him by expert witnesses and by arguments of counsel, but obviousness question raised an issue of law on which the Court of Appeals had a responsibility to make an independent judgment.

2. Patents ⇐18

Subject matter of patent on automobile wheel that would fit different makes of cars was obvious, and accordingly the patent was invalid. 35 U.S.C.A. § 103.

Richard Bushnell, Chicago, Ill., for defendants-plaintiffs-appellants.

Irwin C. Alter, Chicago, Ill., for plaintiff-defendant-appellee.

Before CASTLE, Senior Circuit Judge, and SWYGERT and STEVENS, Circuit Judges.

STEVENS, Circuit Judge.

Were it not for the fact that the invention was a step in a direction opposite to what was considered good engineering practice, Beith's discovery of an automobile wheel that would fit different makes of cars would surely be considered obvious. The principal question presented by this appeal is whether the district court's findings that Beith ignored the risks that would have deterred others skilled in the art saves the patentability of an otherwise obvious conception.

1. It would appear, however, that the Pennsylvania regulation may not be enforced insofar as it predicates eligibility for medical assistance payments on conditions that were specifically invalidated in *Doe v. Bolton*, 410 U.S. 179, 93 S.Ct. 739, 35 L.Ed.2d 201 (1973), namely, a concurrence of two doctors and performance of the procedure in an accredited hospital.

I.

The parties are competing manufacturers of "mag wheels."[1] Mag wheels are specially designed wheels, usually cast aluminum and sometimes containing a magnesium alloy, intended to enhance the appearance of a car. They are more expensive than normal wheels. A buyer of such wheels, especially one who frequently changes cars, often wants to use the same wheels on successive cars. Car wheels, however, are not interchangeable because there has been no standardization among automobile manufacturers on the arrangement of the lugs which project from the brake drum or axle to secure the wheel. The lugs, of course, are arranged in a circle and usually there are five for each wheel. The most popular makes of cars, however, employ lug bolt circles of three different radii —4½ inches for Ford and Chrysler cars; 4¾ inches for Chevrolets; and 5 inches for the larger General Motors cars. The marketability of a mag wheel is significantly greater if it will fit all three of the most frequently used lug bolt arrangements than if it will fit only one.[2] The purpose of Beith's invention was to make a wheel that would fit lug bolt circles of different radii.

Beith's solution to the problem was simple. He elongated the lug apertures in the wheel sufficiently to accommodate lug bolts arranged in circles of different radii; he then inserted adapters to fit snugly into the enlarged lug apertures; each adapter, in turn, contained a hole through which the lug projected. One set of adapters contained off-center holes. If such an adapter was turned in one direction, the opening would be 4½ inches from the axle; reversed, the radius would be 5 inches. In a second set of adapters a central hole would accommodate a radius of 4¾ inches.

The patent describes various shapes of lug openings and adapters to fit them. The basic idea, however, was simply an enlarged lug opening to be fitted snugly with one or more inserted adapters, the position of which would determine the lug circle radius which the wheel would fit.

Beith conceived his invention in January of 1965. At that time he was running a small company manufacturing custom wheels with three different predrilled bolt patterns.[3] He took one of those wheels and enlarged the lug aperture by drilling all three standard lug patterns into it and then experimented with cardboard inserts to make sure that the wheel would fit all three sizes.

He requested the foundry which was casting wheels for his company to sandcast the new wheel for him with the enlarged lug openings. Beith testified that executives of the foundry expressed concern about their ability to sandcast the holes accurately and about the possibility that the wheel would be weakened by the elimination of additional metal, which in turn might subject the company to product liability problems. A second foundry, which used a permanent mold process rather than sandcasting, agreed to make wheels for Beith. That company insisted, however, that Beith make better drawings and recommended an engineer to review the project.

1. Plaintiff E-T Industries is a wholly-owned subsidiary of Filter Dynamics International, Inc., which purchased E-T's stock from the inventor Beith in 1970. Ansen Automotive Industries was at the time of the trial a wholly-owned subsidiary of Whittaker Corporation. After trial Ansen was merged into Whittaker, which was then substituted as a defendant. Defendant Des Plaines Grand Automotive Speed Center, Inc., is a distributor of Ansen's wheels.

2. Because of the high cost of custom wheels, the variety which a dealer could carry in inventory was limited. Thus, a wheel which could be used interchangeably on all three sized lug patterns provided the dealer, as well as the customer, with significant economies.

3. Beith graduated from college in 1958, taught school for about five years, and apparently formed his wheel company about a year or two before he conceived the patented invention.

Beith discussed the problem of weakening the wheel by enlarging the lug apertures, but the engineer "felt that it could be accomplished, or at least we could certainly experiment; the only way we would really know was to go ahead and make the drawings, have molds made, cast some wheels and really, because there was no testing at that time, market the product and find out the real test, the real proof. It was all conjective at that point as to whether the product would function out on the highway, on the automobiles, in the marketplace." Tr. 77.

Beith filed his original patent application in July. In October, 1965, he tested the new wheel in operation, found that it worked, and began to sell it commercially. Sales increased dramatically. Plaintiff had commenced operation on an investment of $750; in 1970, Beith sold the company to Filter Dynamics for FDI stock valued at $1,375,000. Thereafter, annual sales grew from about $2,500,000 to almost $13,000,000 in three years.

At about the same time that Beith developed the patented wheel, several employees of defendant Ansen were experimenting with the "Fujii wheel"—so named because it was placed on the 1951 Chevrolet which an Ansen employee named Dennis Fujii drove to work every day. The Fujii wheel was a standard wheel on which the lug apertures were enlarged to hold an insert which enabled the wheel to fit the 4¾ inch lug circle. The insert used in the Fujii wheel would fit only a Chevrolet, but it is apparent that the Fujii concept, just like Beith's, would be equally useful with different inserts for different sizes.[4] Defendant adduced oral testimony to prove that the Fujii wheel was in public use more than a year before Beith filed his patent application. The district court found this evidence of doubtful reliability.[5] Moreover, he noted that Ansen did not proceed with the development of an interchangeable wheel employing the Fujii concept, but instead developed an entirely different wheel embodying a so-called "knock-off lug" modeled after wheels used on racing cars.

Later, after acquiring Ansen, defendant investigated the Beith patent and started to manufacture and sell wheels which the district court found to infringe.

The district court reviewed the prior art in detail. We need mention only two items, Adair[6] and Siler.[7]

Adair disclosed a wheel which will fit lug circles not only of different diameters but also containing different numbers of lugs. Like Beith, it had elongated lug apertures to accommodate different sizes, but it also had extra openings, some of double width, to make it possible to fit six as well as five lugs with the same wheel.[8] Adair merely disclosed the idea—which we think would be obvious even without Adair—that enlarged lug apertures would enable a wheel to fit lug circles of different diameters.

4. The insert used in the Fujii wheel contained an off-center hole to receive lug bolts from a Chevrolet. Since the lug circle radius on a Chevrolet is 4¾ inches, reversal of that insert would accommodate a radius of 5¼ inches. No American car uses that lug arrangement and, therefore, as the district court found, the actual Fujii wheel fit only one sized car. The district court also noted doubt as to whether the insert actually used with the Fujii wheel could have been reversed. It seems quite clear, however, that the invention described in the patent would cover a wheel which used three different inserts to fit the three wheel sizes, as well as one which uses two inserts, one containing a concentric hole and the other containing an eccentric hole useful in two positions to accommodate three sizes.

5. The evidence established that Ansen initiated a wheel development program in 1964. An independent engineer named Ostgaard prepared a number of design drawings for Ansen during the period between May and November, 1964. Since he was not told about the Fujii wheel, it seems likely that that wheel was made later. On the other hand, one of Ostgaard's early pencilled drawings originally depicted enlarged lug apertures which were erased when a design change was made.

6. Adair Patent No. 2,590,363; issued on March 25, 1952, covering "wheel adaptable to different hubs."

7. Siler Patent No. 3,006,443, issued October 31, 1961, covering "Method and Apertures for Attaching Juxtaposed Members."

APP. 3

The Siler invention did not relate to wheels. It was concerned with the problem of securely attaching two parts, such as metal plates or sheets, which contain holes that are somewhat misaligned, and therefore will not accommodate a fastener such as a rivet or a bolt of the same size as the holes. The patent teaches that it is undesirable simply to enlarge the hole in one of the two plates and then to use a rivet or bolt of the same size as the original hole.[9] Instead, the patent teaches the use of adapters containing small off-center holes which can be aligned with one another, and through which a smaller bolt or pin can be inserted to fasten the members together.

The Siler patent is relevant to the Beith invention in two different ways. On the one hand, its admonition not to enlarge bolt holes unnecessarily supports the district court's findings that Beith's conception, insofar as it enlarged the lug apertures in the web of the wheel, was contrary to accepted engineering practice.[10] On the other hand, Siler also taught that an adapter, or insert, could be used to secure a relatively small bolt

8. Adair's basic idea was to have a universal emergency wheel which could be substituted for a damaged wheel on almost any vehicle in order that the vehicle could be driven instead of towed to a repair facility.

9. The Siler specifications state, in part:

"Frequently, the mechanic working with supposedly exact and interchangeable parts finds some members deviating so far from the desired standard that they cannot be bolted or riveted or otherwise properly fixed together. Thereupon, he frequently resorts to an undesirable expedient which will forever thereafter preclude the replacement and integration into the device (as when undergoing repairs) of a truly standardized part or parts.

"In such undesirable practice, the mechanic proceeds to drill new holes by hand, or ream and enlarge the misaligned holes, so that they will receive bolts or other fastening elements.

"Such expediency and ill considered practice will produce a weakened structure because it has been provided with irregular or enlarged holes greatly exceeding the limits of tolerance allowed by the designing engineers and/or failing to meet the requirements of standards in strength and stability."

10. The relevant findings are Nos. 9 and 34, which read as follows:

"9. The approach Beith decided to take was opposite to what was considered good engineering practice,[9] because the part of the wheel where the elongated slots were to be formed was structurally the weakest part of the wheel. Much concern had been shown for the strength of wheels in this critical area. His solution to the long-existing problem was an unexpected and unobvious acceptable solution since people with ordinary skill would have sought an acceptable solution by using large adapter plates."

"34. The level of ordinary skill in the automotive wheel field is such that those skilled in the art would not have gone in the direction that Beith went at the time of his invention.[9] Beith removed material from what is considered a critical portion of the wheel—the central mounting portion or web near the central hub opening. Thus, Beith went in a direction opposite to the direction that was being taken by those having ordinary skill in the art. By doing so, the public was provided with a universal wheel that was smart looking, in that the elongated slots were directly in the web of the wheel itself and small adapter means were used to obtain universality. Such wheels could be manufactured and operated easily while still having a pleasing appearance as well as reliably locating and attaching the wheel to the brake drum.

[9] *Cf.* U.S. Letters Patent No. 3,006,443 (Siler) at column 1, lines 50–60.

"[9] This is brought home by the fact that Ansen rejected the idea of elongated apertures and opted for a plate system at around the same time as Beith was developing his wheel."

The footnotes are the court's.

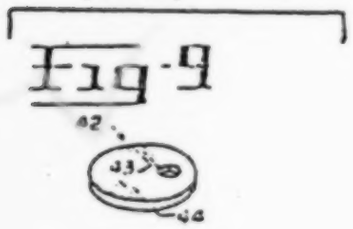
APP. 4

in a large opening.[11] Thus, if we consider the two parts of the Beith invention separately, in effect Siler taught (a) that the lug apertures should not be enlarged, but (b) if they should be enlarged, the oversized openings could nevertheless be secured to a normal lug by using an adapter, or insert, containing a smaller hole fitting the lug bolt.

The district court's findings that Beith's invention took a step in a direction opposed to the teaching in the prior art are supported, not only by Siler[12] and by Beith's testimony describing the first foundry's objection to sand-casting a wheel with larger openings in the web, but also by plaintiff's expert Nass, who testified that enlarging the holes to accept different lug patterns would be considered "a pretty brash move" likely to produce "some kind of trouble."[13] He further explained that to

11. The adapter, or insert (44) in Fig. 9 of Beith's patent (shown below on the left) is similar to the adapter, or insert (15) in Figs. I and IV of the Siler patent (shown on the right).

[Beith]



[Siler]

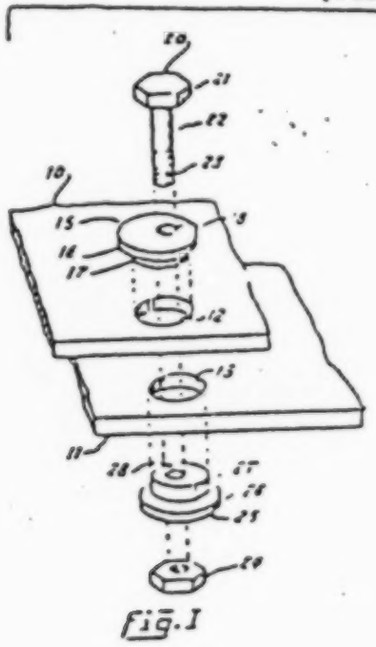


fig. I

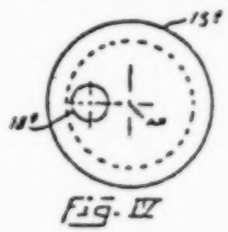


fig. IV

12. Actually, the portion of the Siler specifications on which the district court relied is a comment on the undesirability of enlarging a hole in a prefabricated part, rather than a comment on the possible consequences of designing an entirely new product containing larger holes than those found in a previous design.

13. He testified at Tr. 299-301:

"Q In your opinion would it be good design to remove the amount of material that has been removed there as opposed to just a small circle as a pre-drilled wheel had?

"No. If I might state your question the way I understand it, we assume we start with a wheel that merely has drilled holes in it in normal application. Now we consider enlarging the holes to accept the UNI LUG system.

"Q Yes, sir. Right.

"A Well, in my opinion that would be a pretty brash move because it is in an area where the stress level is quite high. From the tests I have run, you would be, so to speak, asking for trouble by making a move of this kind.

"Q Would you say that that would be going in the opposite way of good wheel design?

"A I believe logically it would be going in the wrong direction, yes.

"Q Based on that opinion, do you think it would have been expected for some one to go in that direction to reach the result obtained with the UNI-LUG system?

• • • • • •

"My feeling in the matter is that a person, if he appreciated what was going on stress-wise in a wheel, he would soon realize that making a move of this kind, he would probably get into some kind of trouble."

determine whether a change like that would be acceptable, it would be necessary to make several tests, and then added:

> Well, I can state that by my experience, that is the typical way that alterations and modifications to wheels are made. Frequently there is very little what you might call rigorous analysis involved in it. They will make a modification and then the wheels will be sent down to me for an evaluation and certain road levels are applied to the wheels, and sometimes the wheels are what is known as stress coated to study the stress pattern in the wheel to gain a knowledge of what is going on in the wheel, and then from that knowledge further changes may be made. There could be an alloy section change made. There could be a section thickness change made or some other changes made to get the wheel up to a point where it would be satisfactory again structurally.

Tr. 301-302. On cross-examination he testified that if a wheel or any other structure is weakened by removing material, the weakness could be counteracted by adding or repositioning other material. For example, he said:

> The strength of any structure depends on two things, basically—what the material is that you are using, the quality of the material, and No. 2, on the geometry. Between those two variables you can generally get about everything you need in structure. Tr. 411.

II.

[1] There is no basis for criticizing the district court's analysis of this invention. He followed the procedure mandated by *Graham v. John Deere Co.*, 383 U.S. 1, 17-18, 86 S.Ct. 684, 15 L.Ed.2d 545, his findings evidence a thorough understanding of the invention and the prior art, and his judgment on the ultimate issue of validity is entitled to special respect because of his better opportunity to have the exhibits explained to him by expert witnesses and by the arguments of counsel. Nevertheless, the obviousness question raises an issue of law on which we have a responsibility to make an independent judgment. In this case that judgment involves a three-step consideration: first, whether each element of the invention is obvious; second, if so, whether the combination is obvious; and third, if the combination seems obvious in itself, whether the rejection of the contrary teaching in the prior art requires a different conclusion.

Each of the two essential parts of Beith's conception—first, enlarging the lug apertures to receive bolt arrangements of different radii; and second, effectively reducing the size of the enlarged openings to enable them to receive normal lug bolts—was unquestionably taught by the prior art. The combination, however, was new. It would therefore be patentable if it produced a result other than the anticipated sum of the separate parts, or if a person skilled in the art, fully aware of the separate elements of Beith's concept, would not be expected to combine them when looking for the solution to the problem of making an interchangeable wheel. In this case, the combination cannot be described as synergistic, and it seems rather clear that an artisan who conceived of the first step in his consideration of the problem of making an interchangeable wheel would readily recognize the need for an adapter or an insert.[14] We are persuaded that the ultimate conclusion of non-obviousness can only be supported

14. No particular importance is attached to the reversible character of the insert containing the eccentric hole because the patent would equally cover the use of three or more separate inserts, none of which was reversible.

by the district court's reliance on the adverse teaching in the prior art.[15]

In *United States v. Adams*, 383 U.S. 39, 86 S.Ct. 708, 15 L.Ed.2d 572, the Court's conclusion that the discovery of a water activated battery, using magnesium cuprous chloride electrodes, was nonobvious rested heavily on evidence that long accepted factors would deter any investigation into the combination used by Adams.[16] The reasoning of the *Adams* case is not applicable to Beith's invention.

The Adams battery generated large quantities of heat during normal operation and the prior art taught that such a battery was not practicable. Moreover, the prior art also taught that water activated batteries were only successful when used with electrolytes harmful to magnesium. The court was persuaded that both of these long-accepted factors would deter *any investigation* of the combination which Adams found to be unexpectedly successful.

In this case, the contrary factor was merely the rather obvious notion that enlarging holes in a structural member will weaken it to some extent. But the record establishes that it was equally clear that some enlargement might be tolerated and that modifications in design or material strength might overcome the effect of the loss of some material. As the testimony of plaintiff's own expert indicates, the problem was not so serious as to deter any investigation at all of enlarged lug apertures, but rather it was a problem typical of almost any new wheel design which would normally require careful testing and perhaps further experimentation and modification.

The prior art taught that interchangeability might be achieved by using enlarged lug apertures, but that any such new design should be carefully tested to be sure it was safe. This prior art warning to be careful with the new design is not, in our judgment, equivalent to the uniform prior art teaching in *Adams* that any investigation of the use of the magnesium electrode in a water activated battery would be purposeless.

We have also considered the relevance of the Fujii wheel. The fact that Ansen also experimented with enlarged lug openings and inserts is consistent with our conclusion that the concept was obvious, whereas the fact that Ansen did not go forward with the development of this kind of wheel until after Beith had demonstrated its feasibility tends to undermine that conclusion. It does not, however, support the applicability of the *Adams* rationale to this case because there is no evidence that Ansen's decision not to go forward with the Fujii wheel rested on any concern about weakness caused by enlarging the lug openings. On the contrary, the fact that the Fujii wheel was in fact made and actually tested indicates that the prior art did not completely deter any experimentation with this concept.

[2] We conclude that the subject matter of the Beith patent was obvious within the meaning of 35 U.S.C. § 103 and, accordingly, that the patent is invalid.

Reversed.

15. We do not ignore the substantial evidence of commercial success which buttresses the district court's conclusion of validity, but such success is not by itself sufficient to show nonobviousness. Rather, it must be weighed with all the other evidence in the record.

Novo Industrial Corporation v. Standard Screw Company, 374 F.2d 824 (7th Cir. 1967); *Application of Cline*, 345 F.2d 847, 52 CCPA 1404 (1965).

16. "We conclude the Adams battery was also nonobvious. As we have seen, the operating characteristics of the Adams battery have been shown to have been unexpected and to have far surpassed then-existing wet batteries. Despite the fact that each of the elements of the Adams battery was well known in the prior art, to combine them as did Adams required that a person reasonably skilled in the prior are must ignore that (1) batteries which continued to operate on an open circuit and which heated in normal use were not practical; and (2) water-activated batteries were successful only when combined with electrolytes detrimental to the use of magnesium. These long-accepted factors, when taken together, would, we believe, deter any investigation into such a combination as is used by Adams. This is not to say that one who merely finds new uses for old inventions by shutting his eyes to their prior disadvantages thereby discovers a patentable innovation. We do say, however, that known disadvantages in old devices which would naturally discourage the search for new inventions may be taken into account in determining obviousness.

"Nor are these the only factors bearing on the question of obviousness. We have seen that at the time Adams perfected his invention noted experts expressed disbelief in it. • • • Furthermore, in a crowded art replete with a century and a half of advancement, the Patent Office found not one reference to cite against the Adams application." 383 U.S. at 51-52, 86 S.Ct. at 715.

Supreme Court, U. S.
FILED
JUL 29 1976
MICHAEL RODAK, JR., CLERK

IN THE

Supreme Court of the United States

OCTOBER TERM, 1975.

No. 75-1744

E-T INDUSTRIES, INC.,

Petitioner,

vs.

WHITTAKER CORP. AND DES PLAINES GRAND AUTOMOTIVE SPEED CENTER, INC.,

Respondents.

PETITIONER'S REPLY BRIEF.

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TABLE OF CONTENTS.

PAGE

Table of Authorities ii

Cases ii

Statutes ii

Federal Rules of Civil Procedure ii

Argument 1

I. The Presumption of Patent Validity Should Be Strengthened When the Prior Art Relied Upon Has Been Fully Considered by the Patent Office and the Trial Court and No References More Pertinent Have Been Advanced 1

II. Inter-Circuit Conflict As to the Extent of Appellate Review of Non-Obviousness Is Real 3

III. Respondents Have Misstated the Duty of the Appeals Court Under Graham v. John Deere and U. S. v. Adams 4

Conclusion 7

APPENDIX.

Ortho Pharmaceutical Corporation v. American Hospital Supply Corporation—Opinion of the U. S. Court of Appeals for the Seventh Circuit, dated April 28, 1976 .....App. 30

TABLE OF AUTHORITIES.

Cases.

Graham v. John Deere, 383 U. S. 1 (1966) 4, 5, 7
Illinois Tool Works v. Continental Can Co., 273 F. Supp. 94 (N. D. Ill. 1967) 6
Lyon v. Bausch & Lomb Optical Co., 224 F. 2d 530 (2nd Cir. 1955) 6
Ortho Pharmaceutical Corporation v. American Hospital Supply Corporation, ... F. 2d ..... (7th Cir. 1976) 3, 4
U. S. v. Adams, 383 U. S. 39 (1966) 4, 5, 6, 7, 8
330 F. 2d 622 (Ct. Cl. 1964) 5

Statute.

35 U. S. C. § 282 1

Federal Rules of Civil Procedure.

Rule 52(a) 5

IN THE

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OCTOBER TERM, 1975.

No. 75-1744.

E-T INDUSTRIES, INC.,
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vs.

WHITTAKER CORP. AND DES PLAINES GRAND AUTOMOTIVE SPEED CENTER, INC.,
Respondents.

PETITIONER'S REPLY BRIEF.

ARGUMENT.

I. THE PRESUMPTION OF PATENT VALIDITY SHOULD BE STRENGTHENED WHEN THE PRIOR ART RELIED UPON HAS BEEN FULLY CONSIDERED BY THE PATENT OFFICE AND THE TRIAL COURT AND NO REFERENCES MORE PERTINENT HAVE BEEN ADVANCED.

Respondents have failed to address themselves to a most basic legal and logical consideration raised by Respondents' characterization of the *Adair* and *Siler* prior art references: Respondents could produce *no* prior art reference more pertinent than the File Wrapper references cited and considered by the Patent Office during prosecution of the *Beith* Patent and have thus failed to overcome the statutory presumption of validity extant under 35 U. S. C. § 282. Having thus failed, Respondents urge that, contrary to the findings of the Patent Office and the Trial

Judge, *Siler* and *Adair,* when taken together, teach the Beith invention. In so doing, Respondents have chosen to treat the Beith invention as a combination of old elements, whereas the Patent Office and the Trial Court more correctly determined that *Beith* included novel elements not taught in *Adair, Siler* or any combination thereof.

Respondents have instead attempted to use the Fujii Wheel and the Ostgaard drawings to show that Ansen had experimented along the same lines as Beith to solve the same problems, and that such experimentation made Beith's solution an obvious one. A review of the Trial Judge's Findings of Fact, particularly Findings 14 through 20, plainly demonstrates that the Trial Judge, after having had the opportunity to observe Respondents' witnesses and hear their testimony, specifically found that the testimony elicited was ". . . unreliable in view of many inconsistent and impeaching statements made under oath. . . . The testimony *and wheel* do not fulfill the defendant's required burden of establishing clear and convincing invalidating evidence". (Emphasis ours.) In point of fact, the alleged Fujii Wheel was admitted at trial as *demonstrative* evidence, and the Trial Judge reserved ruling as to the very existence of the wheel at the times and places claimed by Respondents. That the Trial Court's findings on the facts *do not* support the existence of the Fujii Wheel is clear in Finding of Fact 17 wherein the Trial Court stated:

> "In addition to the fact that testing of the alleged wheel was never completed, I find no evidence that could serve as a basis for concluding that the Fujii Wheel, *if it did exist at the time claimed,* was anything other than a concealed or abandoned model that never was publicly disclosed." (Emphasis ours.)

Even if we assumed *arguendo* the existence of the Fujii Wheel as claimed by Respondents, the fact remains that Respondents did not begin manufacturing a wheel utilizing reorientable inserts until more than five years after the alleged experimentation with

the Fujii Wheel. During that five year period, Respondents concentrated on a wheel system clearly commercially inferior to that developed by Beith and it was not until the Beith device earned commercial success that Respondents chose to abandon their large adaptor plate system and opt in favor of infringing the *Beith* patent.

If it is true, as Respondents state, that the Ostgaard drawings speak for themselves, it is equally true that Ostgaard's testimony tells us that he drew a *retainer plate* ,rather than a wheel. Respondents contend that Ostgaard sketched a wheel similar to that of Beith, then subsequently erased the drawing. In fact, Ostgaard knew *nothing* about the Fujii Wheel or the Beith Wheel, and was first shown the Fujii Wheel at a deposition held many years later, in connection with this lawsuit. Ostgaard testified that the erasures on the drawing represented his attempt to develop ". . . a novelty of a *retainer plate* for holding wheels in place . . .".[1] (Emphasis ours.) Thus, Ostgaard himself characterized his drawing as one for a "retainer plate," *not* a universal wheel as taught by Beith. If anything, Ostgaard by his own admission was concentrating on a solution similar to that adopted unsuccessfully by Respondents: use of a large adaptor plate mounted at the rear of the wheel.

II. INTER-CIRCUIT CONFLICT AS TO THE EXTENT OF APPELLATE REVIEW OF NON-OBVIOUSNESS IS REAL.

A review of the cases and authorities cited by Petitioner clearly identifies the conflict in question; Respondents tacitly admit to the conflict by ignoring Petitioner's brief, offering no rebuttal to the cases and analyses set forth by Petitioner. It is now certain that the standard of appellate review utilized by the Appeals Court not only is inconsistent with the standard adopted by Appeals Courts in other circuits, but is inconsistent within its own circuit as well. In a recently decided case entitled *Ortho*

1. Trial Record at pp. 565, 568, and 569.

Pharmaceutical Corporation v. *American Hospital Supply Corporation*, ... F. 2d ..... (7th Cir. 1976), the text of which is reproduced herein as App. 30-38, the Appeals Court for the Seventh Circuit held that a "stupid" step taken directly in the face of accepted practice within the art was evidence of non-obviousness. Similarly, the *Ortho* Court held the usual statutory presumption of validity to be *strengthened* "when the Patent Office specifically considered the prior art which is urged to invalidate the patent by an accused infringer". (*Ibid.*, at App. 36.) These holdings were upheld while specifically taking into consideration prior art attempts resulting in solutions close to that achieved by the inventor, but which, in point of fact, were *less* effective, *less* efficient and *more* difficult to use.

Petitioner submits that the *Ortho* decision is in direct conflict with the prior ruling appealed from here, which in essence ignored the findings of fact of the Trial Court with respect to the prior art and instead, asserted that the File Wrapper History patents, fully considered by the Patent Office and the Trial Court, taught Beith's invention, and that evidence of similar but unsuccessful solutions to the problem solved by Beith were indicative of the obviousness of the invention. Such reasoning is manifestly inconsistent with that of the *Ortho* Court. Petitioner submits that the reasoning adopted by the *Ortho* Court represents the more correct approach and should be adopted not only within the Seventh Circuit, but among the remaining circuits as well.

III. RESPONDENTS HAVE MISSTATED THE DUTY OF THE APPEALS COURT UNDER GRAHAM v. JOHN DEERE AND U. S. v. ADAMS.

Correct appellate review of the issue of obviousness requires a correct application of the *Graham* and *Adams* teachings. Respondents incorrectly assert that the Appeals Court "closely followed" these teachings.

Graham mandates a two-step analysis: determination of factual underpinnings and application of law to the facts. Effective appellate review must begin either with acceptance or rejection of the factual underpinnings as found by the trier of fact; rejection must not be subjective but must be based on a finding that determination of the factual underpinnings was clearly erroneous within the meaning of Rule 52(a) F. R. C. P. If the Appeals Court herein has followed the *Graham* mandate, it has done so *not* as an appellate tribunal, but as a *trial* court making its own independent findings of fact based on a review of the evidence, thence proceeding to apply the law to this newly conceived set of facts. The Appeals Court herein, while not overturning the Trial Court's findings of fact, in essence rejected them by holding that they were legal questions.

Adams teaches that "known disadvantages in old devices which would naturally discourage the search for new inventions may be taken into account in determining obviousness." (383 U. S. at 52.) To require, as the Appeals Court has done, that investigation in the face of such disadvantages be "purposeless," would serve to choke off inventive effort, and would seemingly force the inventor to flout not only the prior teachings and opinions of others, but the very laws of nature and science themselves before a valid patent could be granted. Such a heavy inventive burden was not contemplated by *Adams* and should not be countenanced by this Honorable Court.

Respondents assert that because Ansen had allegedly experimented with an approach similar to that adopted by Beith, such efforts illustrate that Beith's solution was not conceived in the face of long accepted factors deterring investigation of any such solution. It should be remembered that when *Adams* was first decided in the United States Court of Claims [330 F. 2d 622 (Ct. Cl. 1964)], it was pointed out at trial that one of the references cited by the alleged infringer taught a combination close to that of the Adams battery, but the cited combination *did not work*. Respondents claim that the Fujii Wheel and the

Ostgaard drawings establish Ansen's efforts to produce a universal mag wheel. The manifest unreliability of these exhibits was demonstrated at trial and noted by the Trial Court. Further, whatever Ansen eventually arrived at, it discarded and opted instead to produce the ill-fated adaptor plate system conception, eventually to be discarded *only* after Beith's solution proved to be a structural and financial success. At best, Ansen's efforts may be characterized as unsuccessful, which, in fact, discouraged Ansen from proceeding further. Such action is generally considered evidence of invention, rather than evidence against invention. In *Lyon* v. *Bausch & Lomb Optical Co.*, 224 F. 2d 530 (2nd Cir. 1955); *Illinois Tool Works* v. *Continental Can Co.*, 273 F. Supp. 94 (N. D. Ill. 1967), and in *U. S.* v. *Adams*, 383 U. S. 39 (1966), the infringing defendants rejected an approach similar to that of the patentee. Judge Learned Hand speaking for the *Lyon* court considered such unsuccessful prior attempts together with the fact that

> ". . . nothing in the implementary arts had been lacking to put the advance into operation . . ."

to hold:

> We do not see how any combination of evidence could more completely demonstrate that, simple as it was, the change had not been "obvious * * * to a person having ordinary skill in the art". *Lyon* v. *Bausch & Lomb, supra* at 535.

The very strength of the patent system rests with rewarding Beith's "brash" efforts in the face of known weaknesses or disadvantages to his approach; this strength will be eroded if Ansen is allowed to capitalize on Beith's efforts after abandoning its own.

Respondents mischaracterize the testimony of Petitioner's expert to label the Beith invention as "an ordinary design problem". The design parameters encountered by Beith delineated stylized, high-performance cast mag wheels requiring critical attention to appearance *and* performance, with the universality

needed to allow the wheels to fit cars with varying wheel bolt circle diameters. Respondents grossly over-simplify the problems occasioned by such parameters when Respondents infer that a solution to such problems involves *merely* selecting the quality of the material and the geometry of the structure. Between those two variables, one could fit the Wright Brothers' first airplane and the most recent and modern supersonic transport. The effectively twenty-twenty hindsight of Respondents and of the Appeals Court should not be allowed to obscure the very real significance of Beith's efforts to successfully produce a high-performance, highly styled cast mag wheel within very real and restrictive commercial and structural design parameters.

Respondents' footnoted reference to purchase of Petitioner by FDI overlooks the fact that subsequent to its purchase, FDI invested heavily in the Beith invention. At trial, such investment was in excess of 7 million dollars and it is clear that FDI's investment and purchase were grounded on the protection to be afforded by the *Beith* patent.[2] It was FDI's faith in the patent and in the patent system which motivated its monetary risk.

CONCLUSION.

Respondents have tacitly admitted existence of appellate inconsistency in reviewing the issue of non-obviousness by failing to respond to Petitioner's arguments. In addition, Respondents have closed their eyes to the Appeals Court's misapplication of the *Adams* and *Graham* teachings. Instead, Respondents would have this Honorable Court ratify a standard of review whereby an Appellate Court (1) redetermines facts found by the Trial Court without first holding such findings to be clearly erroneous; (2) uses such *"de novo"* findings to support a holding of obviousness; and (3) rules that such holding of obviousness will

2. Trial Record at p. 196; Finding of Fact No. 11.

persist unless the inventor's efforts were "purposeless" in view of the prior art. Petitioner respectfully submits that a more correct review procedure has been followed in other circuits, most recently in the Seventh Circuit, wherein lower court findings of fact remain undisturbed unless clearly erroneous, legal findings are upheld or rejected in view of such factual findings, and efforts taken directly *contra* to accepted practices are protected under *Adams,* rather than penalized. Such an appellate standard is consistent with accepted principles of justice and will serve to strengthen the patent system.

Respectfully submitted,

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In the

United States Court of Appeals

For the Seventh Circuit

No. 75-1859

ORTHO PHARMACEUTICAL CORPORATION, and
ORTHO DIAGNOSTICS, INC.,
Plaintiffs-Appellants,

v.

AMERICAN HOSPITAL SUPPLY CORPORATION, and
ROY E. SPECK,
Defendants-Appellees.

Appeal from the United States District Court
for the Southern District of Indiana, Indianapolis Division
No. IP 72 C 547
CALE J. HOLDER, *Judge.*

ARGUED FEBRUARY 13, 1976 — DECIDED APRIL 28, 1976

Before PELL, *Circuit Judge,* BAUER, *Circuit Judge,* and PERRY, *Senior District Judge.**

PERRY, *Senior District Judge.* After being accused of patent infringement, plaintiff-appellant Ortho Pharmaceutical Corporation [hereinafter "Ortho"] brought a declaratory judgment action against defendant-appellee American Hospital Supply Corporation [hereinafter "AHS"], as the exclusive licensee of claims 1 through 8 of United States Letters Patent 3,486,981 under an agreement with defendant-appellant Roy E. Speck, to whom the patent was issued on December 30, 1969, for "Substances Relating to

* Senior District Judge Joseph Sam Perry of the Northern District of Illinois is sitting by designation.

Testing of Blood-Coagulation." Under the agreement, AHS has the right to make, use and sell partial thromboplastin time test [hereinafter "PTT test"] reagents, which are substances used in blood-coagulation tests. In its complaint, filed March 3, 1972, Ortho asked the United States District Court *inter alia* to adjudge that Speck's patent was invalid and that the manufacture, sale and use of Ortho's Activated Thrombofax Reagent [hereinafter "Thrombofax"] had not infringed it. Because Ortho had brought the action in New Jersey and had not joined Speck as a co-defendant, AHS moved on August 1, 1972, to dismiss or in the alternative to transfer the action to the Southern District of Indiana. Twenty-eight days later, Ortho amended its complaint to restrict the matter in suit to claims 1 through 8 of Speck's patent.

Ruling upon AHS's motion, District Judge Clarkson S. Fisher,—in a commendably thorough opinion order,—found that Speck was an indispensable party to the action and that a declaratory judgment action could not be defended by the licensee alone. Instead of dismissing the action, however, Judge Fisher ordered it transferred to the Southern District of Indiana. There, in order to comply with an order of District Judge Cale J. Holder that Speck be made a party defendant, Ortho further amended its complaint to name Speck as a co-defendant. In September, AHS and Speck answered the second amended complaint and Speck filed a counterclaim against Ortho for patent infringement. Ortho answered the counterclaim the next month. Thereafter, extensive discovery was made by the litigants until February of 1975 when Ortho filed an amendment to its second amended complaint. In the amendment Ortho added an allegation that claims 1 through 8 are invalid under the provisions of both paragraph 1 and paragraph 2 of 35 U.S.C. §112. The case was then tried. At the trial, Ortho's declaratory judgment complaint was dismissed without prejudice and the case was tried on the issues raised by the counterclaim.

On June 30, 1975, District Judge Holder entered unreported but very thorough Findings of Fact and Conclusions of Law. On July 18, 1975, Ortho filed a confidential motion to add evidence excluded during the trial as evidence for purposes of appeal. On July 29, 1975, Judge Holder entered a judgment in which he adjudged *inter alia*

that claims 1, 2, 5, 6, 7 and 8 of Speck's patent are valid and that the counterdefendants, Ortho and Ortho Diagnostics, Inc. [hereinafter also "Ortho"][1], had infringed said claims. The same day, Judge Holder issued a writ of injunction enjoining said counter-defendants from making, using or selling Thrombofax in the United States during the life of Speck's patent.

On August 8th, Ortho appealed the judgment of July 29, 1975 and Judge Holder stayed the enforcement of the judgment pending appeal. On September 11th, Judge Holder denied Ortho's motion of July 18th (to add evidence excluded during the trial).

Ortho exhorts us to reverse the decision of the District Court and to find that the claims in suit are invalid and have not been infringed by Ortho's Thrombofax. Ortho says that we should do so because in many critical areas the District Court's findings of fact are "unbelievably erroneous". We assume that within the meaning of Rule 52(a), 28 U.S. Code, Ortho is using the term "unbelievably erroneous" as a synonym for "clearly erroneous".

Ortho contends that the evidence clearly establishes that the claims in suit are invalid under the provisions of 35 U.S.C. §103, 35 U.S.C. §102(f) and (g), and 35 U.S.C. §112.[2] The contested claims are 1, 2, and 5 through 8. They are as follows:

> 1. A partial thromboplastin time test reagent comprising a platelet substitute, and ellagic acid as the chemical activator.

---

[1] Ortho Diagnostics, Inc., a plaintiff-appellant herein, is the successor to plaintiff-appellant Ortho Pharmaceutical Corporation. It is not clear from the record when plaintiff-appellant Ortho Diagnostics, Inc., became joined as a party. The first record document on which it appears as a party is the Findings of Fact and Conclusions of Law entered on June 30, 1975 by Judge Holder.

[2] 35 U.S.C. §103 provides:

§103. Conditions for patentability; non-obvious subject matter.

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made. (July 19, 1952, ch. 950, 66 Stat. 798.)

2. A partial thromboplastin time test reagent comprising a platelet substitute, and sodium ellagate as the chemical activator.

• • •

5. A partial thromboplastin time test reagent comprising a platelet substitute, and a monovalent salt of ellagic acid as the chemical activator.

6. A partial thromboplastin time test reagent comprising a platelet substitute, and an hydroxy-substituted aromatic compound as the chemical activator.

7. A partial thromboplastin time test reagent comprising a platelet substitute, and a salt of an hydroxy-substituted aromatic compound as the chemical activator.

---

[2] (Continued)

35 U.S.C. §102(f) and (g) provides:

§102. Conditions for patentability; novelty and loss of right to patent.

A person shall be entitled to a patent unless -

• • •

(f) he did not himself invent the subject matter sought to be patented, or

(g) before the applicant's invention thereof the invention was made in this country by another who had not abandoned, suppressed, or concealed it. In determining priority of invention there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other. (July 19, 1952, ch. 950, 66 Stat. 797.)

35 U.S.C. §112 provides:

§112. Specification.

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention. A claim may be written in independent or dependent form, and if in dependent form, it shall be construed to include all the limitations of the claim incorporated by reference into the dependent claim.

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof. (July 19, 1952, ch. 950, 66 Stat. 798; July 24, 1965, Pub. L. 89-83, §9, 79 Stat. 261.)

8. A partial thromboplastin time test reagent comprising a platelet substitute, and a monovalent salt of an hydroxy-substituted aromatic compound as the chemical activator.

The claims in suit are invalid under 35 U.S.C. §103, says Ortho, because what Speck did was obvious to a person with ordinary skill in the blood-coagulation field. They are invalid under 35 U.S.C. §102(f) and (g), it is claimed, because Speck was not the first discoverer of the subject matter of the claims in suit in that Dr. Ratnoff conceived and reduced to practice a PTT test reagent before Speck even conceived of his idea. They are invalid under 35 U.S.C. §112, contends Ortho, because they do not distinctly claim an operative product in that none of claims 1, 2, or 5 contains any reference to ellagic acid or sodium ellagate prepared by any special method of the patent, and none of claims 6 through 8 contains any limitation with regard to any special method of preparing any of the broadly-claimed genus designated as "an hydroxy-substituted aromatic compound." Additionally, says Ortho, claims 6 through 8 are so broad that they encompass many inoperative chemical activators.

Validity of the Claims under 35 U.S.C. §103

The District Court found that the subject matter of each of claims 1, 2, and 5 through 8 was not obvious to a person of ordinary skill in the blood coagulation field either in March of 1964 when Speck first prepared a PTT reagent by dissolving ellagic acid in sodium hydroxide, or on March 15, 1965, when Speck filed his patent application. We have reviewed the record carefully and we feel that it contains sufficient evidence to warrant this finding.

One difficulty we have with accepting Ortho's prior art argument is that Ortho did not establish that Dr. Ratnoff's 1963 article, upon which Ortho depends for prior art, contained an enabling disclosure—a recital telling how to make and use the dilute solutions of ellagic acid in order to accelerate clotting. It is well settled that a publication must contain sufficient disclosure to enable a person of ordinary skill in the art to make and use the invention described in the patent before the patent will be invalidated by the prior art publication. See *Seymour* v. *Osborn*, 78 U.S. 516, 555 (1870). The unsuccessful attempts of

both Dr. Ratnoff and Ortho to prepare a PTT reagent containing ellagic acid in a true solution are further indications that Speck's claimed invention was not obvious even after Dr. Ratnoff's article was published. We agree with AHS that if Speck's invention was not obvious to a person of Dr. Ratnoff's eminent skill, it would not be obvious to a person of ordinary skill in the art.

Perhaps the most important weakness of Ortho's obviousness contention is that Speck made a startling discovery by doing what Dr. Huseby said was a stupid thing to do,—using sodium hydroxide to dissolve ellagic acid. By doing this, Speck discovered that ellagic acid, unlike any other material known to Dr. Huseby, will remain in solution at a pH of 7.5 if it is first dissolved in a base at a higher pH and the pH is then reduced to 7.5 by adding an acid. Both Dr. Colburn and Dr. Huseby agreed that if a material is insoluble at a certain pH but is soluble at a higher pH, and if the pH is raised to dissolve the material and then lowered, the material would precipitate out of solution. But this does not happen with ellagic acid. The PTT test must be performed within the physiological pH range of about 7.3 to 7.5. This was confirmed by Dr. Ratnoff, who testified that the clotting test will not work unless it is done somewhere between pH 7 and 8. Dr. Huseby testified that he would not have used sodium hydroxide to dissolve ellagic acid after reading the 1963 article of Dr. Ratnoff because of the pH at which the reagent had to function and because of the molecular structure of ellagic acid. Dr. Huseby went so far as to say that the idea of using sodium hydroxide to dissolve ellagic acid was "stupid" and that he was "horrified" to learn that Speck's licensee was dissolving ellagic acid in this manner until he learned that Speck's procedure actually worked. The trial judge had a right to credit Dr. Huseby's testimony, and Ortho's vigorous attack on Dr. Huseby's qualifications and on his testimony fails to persuade us that Dr. Huseby was not a credible witness and that the trial judge's findings based upon Dr. Huseby's testimony were clearly erroneous.

Secondary considerations, too, indicate that Speck's invention was not obvious. First, the commercial success of his invention is indicated by the fact that up to the date of the trial Speck received more than $75,000 in royalties.

Ortho concedes that reagents prepared in accordance with Speck's patent can be more conveniently used by untrained help and with instruments. (Reply Brief for Appellants at 1). The reason for this is that such reagents permit the PTT clotting times to be determined automatically by optical instruments. Second, that there was a long-felt but unsolved need for a PTT reagent with a soluble activator is indicated by problems with non-activated PTT tests and particle-activated tests, by Ortho's search since 1961 for a workable soluble activator and its subsequent switch to Speck's procedure after it analyzed his licensee's reagent. Third, the failure of others is indicated by Dr. Ratnoff's failure to solve his suspension problems and by Ortho's failure to solve suspension and precipitation problems until after it began using sodium hydroxide.

Moreover, the usual presumption of validity under 35 U.S.C. §282 is strengthened when the Patent Office specifically considered the prior art which is urged to invalidate the patent by an accused infringer. *Shumaker* v. *Gem Mfg. Co.*, 311 F.2d 273, 275 (7th Cir. 1962); *AMP, Inc.* v. *Vaco Products Co.*, 280 F. 2d 518, 521 (7th Cir. 1960). Speck himself referred to Dr. Ratnoff's 1964 publication in column 4 of his patent and this publication was used as reference by the Patent Office and was listed among the references at the end of the patent. Dr. Ratnoff's 1963 article is an abstract of his 1964 publication. The 1963 article is therefore no more pertinent than the 1964 publication. Ortho relies on the Merck Index for the statement that ellagic acid is soluble in alkalies, but the Patent Office cited the Jurd reference for the statement that ellagic acid is soluble in sodium hydroxide. We feel that there is ample support for the trial judge's finding that none of the prior art relied on by Ortho is any more pertinent than the prior art which the Patent Office considered before granting the patent.

Validity of the Claims under 35 U.S.C. §102(f) and (g)

We also cannot accept Ortho's contention that Dr. Ratnoff rather than Speck was the first discoverer of the subject matter of the claims in suit. Experiments by both Speck and Wilbourn established that Dr. Ratnoff had, not a true solution of dissolved ellagic acid, but merely a suspension of undissolved ellagic acid particles. The record

as a whole supports the District Court's finding that any activation of the Hageman factor obtained by Dr. Ratnoff's reagent was caused by these undissolved particles of ellagic acid. In contrast to what Dr. Ratnoff did, Speck prepared a reagent in which the ellagic acid was in true solution.

Ortho also argues that regardless of whether the ellagic acid in Dr. Ratnoff's reagent was a true solution or only a suspension of undissolved particles, the ellagic acid nonetheless acted as a chemical activator as those words are used in the claims. The District Court found, however, that the words "chemical activator" as used in Speck's claims refer to an activator in solution as distinguished from insoluble activators. We agree with the appellees that the meaning of these words must be determined with reference to the specification as a whole when read by a person skilled in the art to which the patent pertains, the reason being that the specification of the patent is addressed to such persons. See *Carnegie Steel Co.* v. *Cambria Iron Co.*, 18 U.S. 403, 407 (1902). We think that Dr. Murray's testimony amply supports this finding of the District Court.

Validity of the Claims under 35 U.S.C. §112

Nor can we accept Ortho's contention that the claims in suit are invalid under 35 U.S.C. §112. Ortho's argument that claims 1, 2 and 5 do not cover any operative product is countered by Speck's testimony, when taken as a whole, and by that of Dr. Murray.

Ortho argues that claims 6 through 8 are so broad that they embrace many inoperative chemical activators, but Ortho has failed to prove that any hydroxy-substituted aromatic compounds would be inoperative in a PTT reagent prepared in accordance with Speck's patent. Further, we are persuaded that Speck is not claiming hydroxy-substituted aromatic compounds *per se*, but is claiming a PTT reagent which includes only those hydroxy-substituted aromatic compounds which function as a chemical activator of the Hageman factor. See *Application of Fuetterer*, 319 F.2d 259 (C.C.P.A. 1963), where the Patent Office rejected a claim which included "an inorganic salt" as an ingredient on the ground that not all such salts

could perform the function described in the claim. The court reversed, stating that the applicant had described and claimed his invention as comprehending the use of inorganic salts which were capable of performing a specific function and that the claims would be limited accordingly. Finally in this connection, this court has said that the claims of a patentee should be interpreted liberally so as to uphold and not destroy his right in the substance of his invention. *Reese* v. *Elkhart Welding and Boiler Works, Inc.*, 447 F.2d 517, 525 (7th Cir. 1971).

Infringement

Ortho finally contends that the District Court erred in finding that all the claims in suit were infringed by Ortho. The testimony of Wilbourn, Speck and Dr. Huseby, pertinent responses to requests for admission, evidence of Ortho's manufacturing procedures and reagents prepared by Speck in accordance therewith, supply sufficient support for the court's finding of infringement.

Ortho's Confidential Motion

The District Court did not err in denying Ortho's confidential motion to add evidence excluded during the trial. Ortho contends that the excluded evidence would have damaged Dr. Huseby's credibility, but it is well settled that even newly-discovered evidence—which is not the case here—generally cannot be the basis for a new trial when such evidence is strictly impeaching in nature. See *Wroblewski* v. *Exchange Insurance Assn. of Chicago*, 273 F.2d 158, 162 (7th Cir. 1959).

For all of the foregoing reasons, the judgment of the District Court is Affirmed.

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Clerk of the United States Court of Appeals for the Seventh Circuit

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